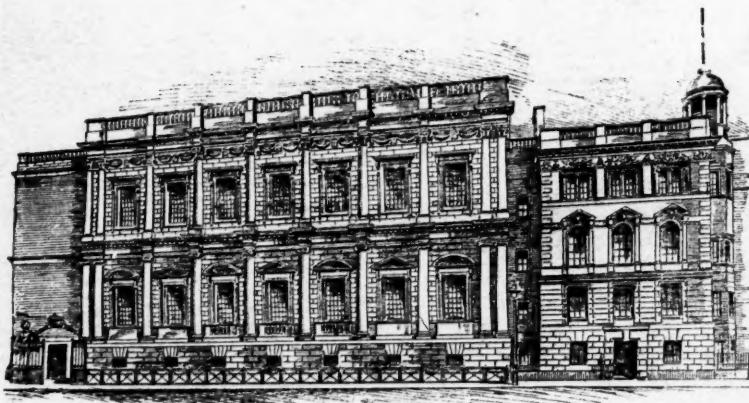


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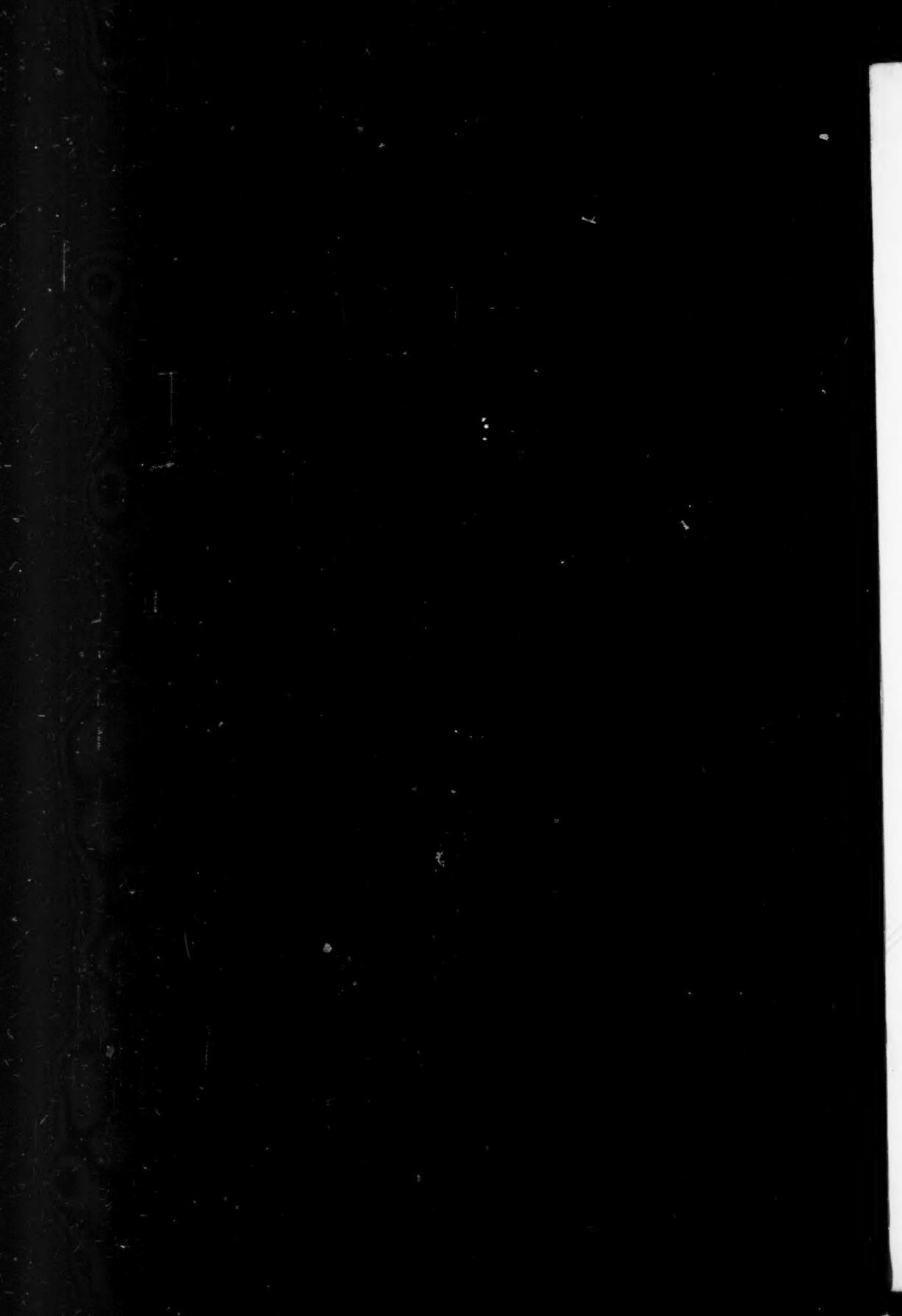
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<i>Current, Deposit & other Accounts (including Profit Balance)</i>	<i>376,578,579</i>
<i>Acceptances and Engagements</i>	<i>19,848,322</i>
<i>ASSETS</i>	
<i>Coin, Notes and Balances with Bank of England</i>	<i>59,989,012</i>
<i>Balances with, and Cheques in course of Collection on other Banks in the United Kingdom</i>	<i>12,802,707</i>
<i>Money at Call & Short Notice</i>	<i>11,651,497</i>
<i>Investments</i>	<i>56,758,808</i>
<i>Bills Discounted</i>	<i>72,118,034</i>
<i>Advances to Customers & other Accounts</i>	<i>176,779,261</i>
<i>Liabilities of Customers for Acceptances & Engagements</i>	<i>19,848,322</i>
<i>Bank Premises</i>	<i>4,942,299</i>
<i>Shares of Belfast Banking Company Ltd. & The Clydesdale Bank Ltd.</i>	<i>3,258,665</i>

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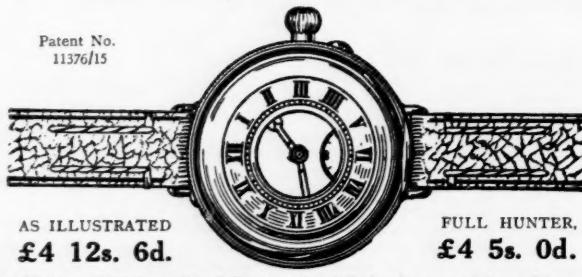
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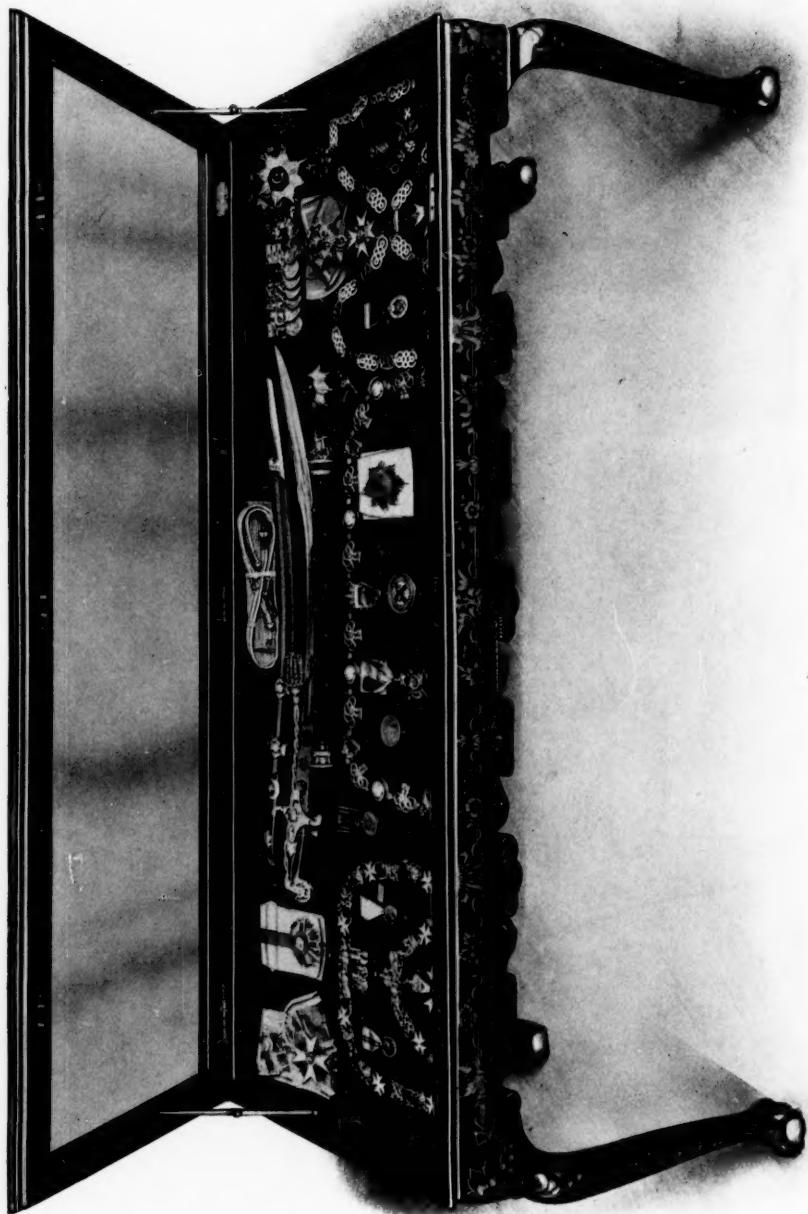
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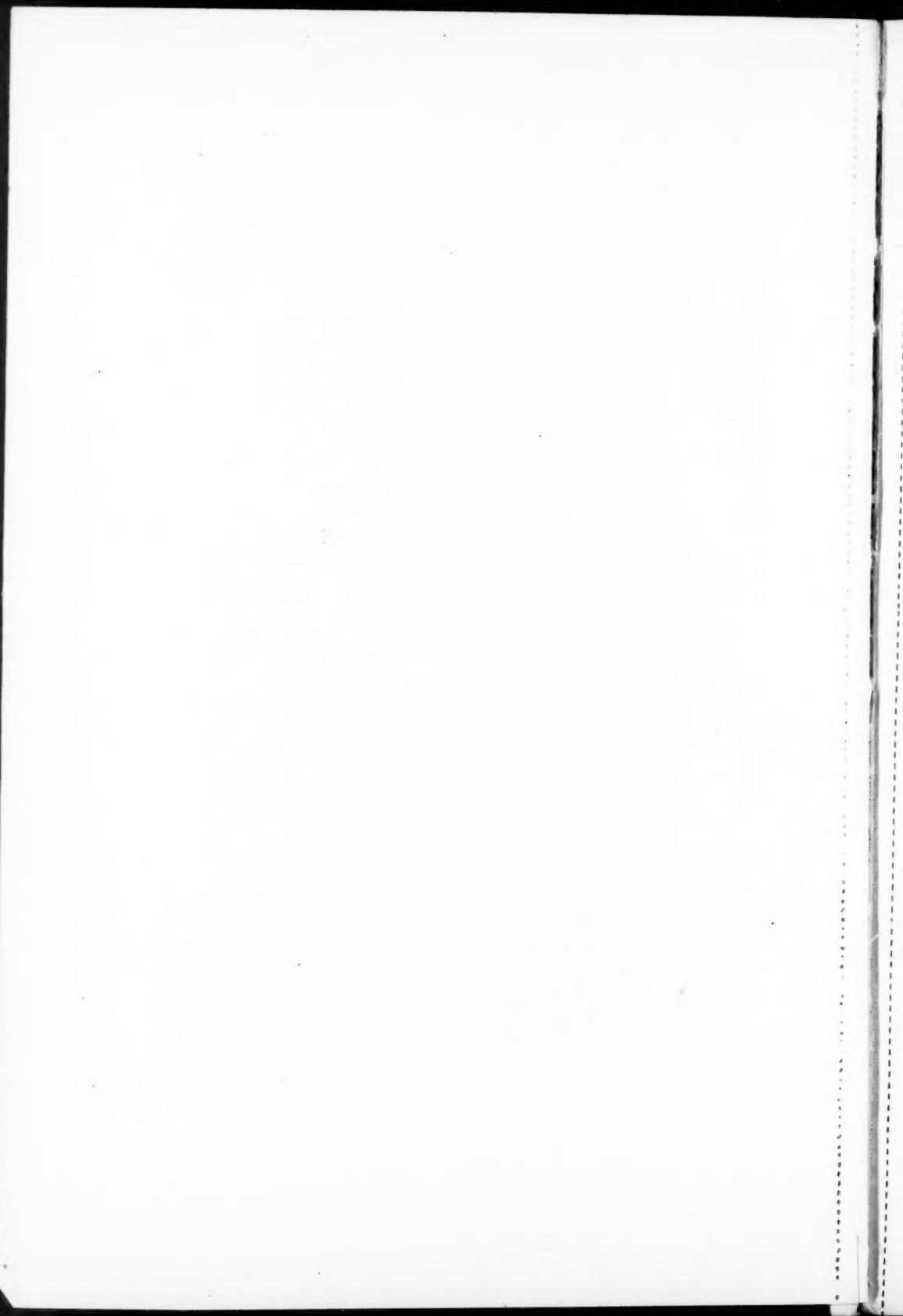
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SECRETARY'S NOTES.

I.—Council.

The following Members of the Council retire, having completed three years service, viz. :—

Admiral-of-the-Fleet The Earl Beatty, G.C.B., O.M., G.C.V.O., D.S.O.

Captain H. D. Briggs, C.M.G., R.N.

Lieut.-General Sir H. S. G. Miles, G.C.B., G.C.M.G., G.B.E., C.V.O.

II.—Anniversary Meeting.

The 91st Anniversary Meeting will be held on Tuesday, 7th March, 1922, at 3 p.m., in the Theatre of the Institution. The Council will present their Annual Report and Statement of Accounts; the election to the Council of new Members, and other business, will take place.

The following Officers have been proposed for election to the Council :—

ROYAL NAVY (2 Vacancies).

Admiral-of-the-Fleet The Earl Beatty, G.C.B., O.M., G.C.V.O., D.S.O.

Admiral Sir R. G. O. Tupper, K.C.B., C.V.O.

Captain H. D. Briggs, C.M.G., R.N.

REGULAR ARMY (1 Vacancy).

General Sir E. G. Barrow, G.C.B., G.C.S.I.

Lieut.-General Sir H. S. G. Miles, G.C.B., G.C.M.G., G.B.E., C.V.O.

III.—Members.

The Council beg to report that during the past year 411 Officers joined the Institution (against 376 in 1920). There were 231 withdrawals and 101 deaths (of which 42 were Life Members), making an increase of 79 on the year.

The Council trust that Members will do their utmost to introduce new Members during the coming year.

The details of Members joining were as follows :—

Regular Army	-	-	-	-	-	-	-	324
Royal Navy	-	-	-	-	-	-	-	31
Territorial Army (including Yeomanry)	-	-	-	-	-	-	-	20
Royal Air Force	-	-	-	-	-	-	-	15
Royal Marines	-	-	-	-	-	-	-	10
Overseas Forces	-	-	-	-	-	-	-	6
Royal Naval Volunteer Reserve	-	-	-	-	-	-	-	2
Royal Naval Reserve	-	-	-	-	-	-	-	2
Special Reserve	-	-	-	-	-	-	-	1

411

The total number of Members on 1st January 1922 was 5,275.

IV.—Officers Joined.

The following Officers have joined the Institution during the months of November, December, and January, *viz.* :—

Captain O. Teichman, D.S.O., M.C., R.A.M.C. (T.F.).
Second-Lieutenant E. J. C. King-Salter, Rifle Brigade.
Captain E. W. Sheppard, O.B.E., M.C., Queen's Own Royal West Kent Regiment.
Major A. G. Cunningham, D.S.O., M.C., R.F.A.
Captain C. H. Gaisford St. Lawrence, M.C., The Royal Scots Greys.
Lieut.-Commander Hon. T. T. Parker, D.S.C., R.N.
Lieut.-Colonel C. C. Armitage, C.M.G., D.S.O., R.F.A.
Captain N. K. Jolley, R.M.L.I.
Lieutenant R. P. H. Eyre, M.B.E., R.A.S.C.
Surgeon-Lieutenant J. R. Barrowclough, late R.N.
Colonel W. M. St. G. Kirke, C.B., C.M.G., D.S.O., R.G.A.
Colonel Hon. A. G. A. Hore-Ruthven, V.C., C.B., C.M.G., D.S.O., Welsh Guards.
Major C. D. Noyes, M.C., I.A.
Lieutenant R. A. Buss, I.A.
Lieutenant W. G. Clarke, Oxfordshire and Buckinghamshire Light Infantry.
Captain A. McG. Cant, M.C., Army Educational Corps.
Lieutenant T. E. H. Helby, M.C., R.G.A.
Captain H. H. Smith, D.S.O., R.N.
Major A. C. Birch, late R.F.A.
Captain W. M. Jenkins, R.G.A.
Lieutenant A. M. Cameron, M.C., R.E.
Lieutenant S. V. Keeling, Cheshire Regiment.
Wing-Commander W. R. Freeman, D.S.O., M.C., R.A.F.
Major C. St. A. Wake, C.M.G., late Suffolk Regiment.
Lieut.-Commander H. T. Baillie-Grohman, D.S.O., R.N.
Captain T. H. Battye, I.A.
Lieut.-Colonel G. W. C. Lucas, I.A.
Major E. L. D. Lake, T.D., 5th Bn. Suffolk Regiment (T.F.).
Lieutenant E. A. Northen, 5th Dragoon Guards.
Captain T. E. Rome, M.C., late 6th Bn. The King's Regiment (T.F.).
Major G. H. B. De Chair, O.B.E., M.C., Royal Sussex Regiment.
Lieutenant I. T. P. Hughes, M.C., The Queen's Royal Regiment.
Colonel F. M. Watkins, C.B.E., Royal Army Pay Corps.
Major A. G. Kenchington, M.C., The Buffs.
Major E. H. Rigg, D.S.O., King's Own Yorkshire Light Infantry.
Major F. M. Griffith-Griffin, M.C., I.A.
Wing-Commander H. M. S. Turner, M.B.E., R.A.F.
Captain H. B. Holt, M.C., Royal Munster Fusiliers.
Lieutenant H. F. J. Burn, late 3rd Bn. London Regiment (T.F.).
Captain F. P. Halifax, M.C., R.G.A.
Squadron-Leader G. W. Robarts, M.C., R.A.F.
Major R. B. Crosse, D.S.O., Oxfordshire and Buckinghamshire Light Infantry.
Second-Lieutenant J. H. Walford, King's Royal Rifle Corps.
Captain E. S. North, Royal Fusiliers.
Captain J. O. Carpenter, M.C., East Surrey Regiment.
Major F. G. Drew, O.B.E., R.E.
Second-Lieutenant J. G. Wilson, 5th Dragoon Guards.

Flying Officer R. H. Hanmer, M.C., R.A.F.
Captain N. D. O'Toole, Reserve of Officers, I.A.
Commander A. Rowand, D.S.O., late Royal Indian Marine.
Colonel J. Josselyn, C.M.G., D.S.O., O.B.E., T.D., Reserve of Officers, T.F.
Major H. F. Geary, Canadian Forces.
Lieutenant H. F. B. Garrett, M.C., East Surrey Regiment.
Captain R. C. Matthews, M.C., The King's Own Royal Regiment.
Captain J. E. E. Packard, M.C., The King's Own Royal Regiment.
Captain F. F. Worthington, M.C., M.M., Canadian Forces.
Major O. E. Wynne, O.B.E., R.E.
Lieutenant F. H. Coucher, R.M.L.I.
Lieutenant E. N. Clifton, R.E.
Captain H. J. Ackland, I.A.
Captain H. C. H. Eden, M.C., R.F.A.
Captain K. A. North, M.C., I.A.
Captain J. C. Tilly, D.S.O., M.C., West Yorkshire Regiment.
Lieutenant R. H. Welch, D.S.O., The King's Own Royal Regiment.
Major A. R. Roney-Dougal, D.S.O., M.C., R.F.A.
Captain M. F. Keightley, I.A.
Major R. J. MacBrayne, M.C., I.A.
Squadron-Leader F. C. Cowtan, R.A.F.
Captain P. L. Spafford, O.B.E., R.A.S.C.
Captain H. C. Francis, Canadian Cavalry Forces.
Major H. A. Allen, D.S.O., Royal Inniskilling Fusiliers.
Lieut.-General Sir R. G. Egerton, K.C.B., K.C.I.E., late I.A.
Captain G. E. Grimsdale, R.E.
Captain I. B. C. Neilson, T.D., R.A.S.C. (T.F.).
Lieut.-General Sir E. C. Bethune, K.C.B., C.V.O., Colonel, 4th Dragoon Guards.
Major T. E. H. Taylor, D.S.O., M.C., Royal Irish Regiment.
Captain J. E. Hume, D.S.O., Connaught Rangers.
Lieutenant G. E. C. Wood, R.N.
Lieutenant J. E. H. Neville, M.C., Oxfordshire and Buckinghamshire Light Infantry.
Major E. K. Squires, D.S.O., M.C., R.E.
Lieut.-Colonel A. W. Brewill, D.S.O., V.D., T.D., 7th Bn. Sherwood Foresters (T.F.).
Lieutenant F. C. L. A. Lowndes, M.C., Oxfordshire and Buckinghamshire Light Infantry.
Captain W. F. Todd, The Cameronians.
Major E. Burd, I.A.
Lieutenant M. D. A. G. Du Pré, I.A.
Lieutenant P. S. M. Wilkinson, Wiltshire Regiment.
Major B. E. Anderson, D.S.O., I.A.
Captain J. H. K. Richardson, M.C., R.H.A.
Lieutenant H. J. Cooper, R.A.S.C.
Second-Lieutenant C. P. G. Wills, Worcestershire Regiment.
Major A. E. Percival, D.S.O., O.B.E., M.C., Essex Regiment.
Captain E. M. Carkeek-James, O.B.E., M.C., Duke of Cornwall's Light Infantry.
Captain C. H. Peck, D.S.O., M.C., R.F.A.
Captain H. St. J. Carruthers, I.A.
Lieut.-Colonel R. C. Forster, late Royal Gloucestershire Hussars Yeomanry.
Squadron-Leader A. G. R. Garrod, M.C., D.F.C., R.A.F.

Captain A. I. G. McConkey, I.A.
 Captain F. S. Poynder, M.C., I.A.
 Lieut.-Colonel E. J. L. Pike, M.C., Grenadier Guards.
 Captain E. H. M. de Stacpoole, M.C., Leinster Regiment.

V.—Lectures.

Colonel W. M. St. G. Kirke, C.B., C.M.G., D.S.O., who was announced to give the lecture on Wednesday, 8th March, 3 p.m., is unable to do so. A lecture will be delivered on that date by Lieut.-Colonel F. W. Barron, O.B.E., R.A., General Staff, the subject being: "The New Responsibilities of the British Empire, consequent on the assumption of mandates in the Middle East, and their strategic significance, with special reference to India."

Commander T. F. P. Calvert, D.S.O., R.N., is unable to deliver his lecture on "Old Customs and Expressions used in the Royal Navy" on Wednesday, 22nd March 1922, owing to his having left England on foreign service.

Captain H. H. Smith, D.S.O., R.N., has, however, very kindly consented to deliver this lecture instead on that date.

The Council hope that Naval Officers will come forward and offer to lecture or to read papers for the Session of 1922-23.

VI.—Extra Subscriptions.

The Council have pleasure in reporting that the following additional Members have sent extra subscriptions towards the cost of the production and postage of the *Journal*, viz. :—

		£	s.	d.
Amount already acknowledged	-	-	-	-
Lieutenant W. Moore	-	-	-	1 2 8
Captain A. G. Duncan, M.C.	-	-	-	1 1 0
Colonel Sir C. W. Murray, K.C.B.	-	-	-	1 1 0
Lieut.-Colonel G. Bowring	-	-	-	1 0 0
Captain N. G. Macalister	-	-	-	1 3 0
Commander E. G. Mardon	-	-	-	1 1 0
Lieut.-Colonel L. E. Warren, D.S.O.	-	-	-	1 0 0
Major Hon. H. M. Hobart-Hampden	-	-	-	1 1 0
Lieutenant W. M. Harrington, M.C., M.M.	-	-	-	1 1 0
Lieutenant F. H. Thompson	-	-	-	1 1 0
Lieut.-Colonel H. L. Cotttingham	-	-	-	2 2 0
Major-General J. Barnard-Smith	-	-	-	1 1 0
Lieutenant J. W. Darner-Powell, D.S.O.	-	-	-	1 1 0
Captain N. F. Barwell, M.C.	-	-	-	0 10 6
N. A. H. Budd, Esq.	-	-	-	1 1 0
Lieut.-Colonel M. F. McTaggart, D.S.O.	-	-	-	1 1 0
Colonel P. T. Clark	-	-	-	0 10 6
Captain H. Overton	-	-	-	1 1 0
Captain E. W. Goodman, M.C.	-	-	-	2 2 0
Lieutenant J. G. O. Whitehead, M.C.	-	-	-	0 5 0
Lieutenant R. A. Hay	-	-	-	0 5 0
Captain H. Preedy	-	-	-	0 5 0
Lieutenant J. G. Horne	-	-	-	0 5 0
Colonel P. T. Clark	-	-	-	0 10 6
		<hr/>	<hr/>	<hr/>
		£33	5	4

• **VII.—Gold Medal Essay (Air Force) 1921.**

The following additional Essays have been received :—

- (3) "They Hunt the Doves from their Cotes, etc."
- (4) "Transportation is Civilisation."
- (5) "Ariel, thy charge exactly is performed, but there's more work."
- (6) "Virtute et Labore."
- (7) "Let Principles and History go to the Devil ! after all, what is the Problem ?"
- (8) "Semper Virilis, Semper Viridis."
- (9) "Ponder the path of thy feet, and let all thy ways be established."
- (10) "In Utramque Fortunam Firmus."

VIII.—History of the British Army Fund.

The Council are endeavouring to raise a sum of money to enable the Hon. J. W. Fortescue to complete this History, and to somewhat recompense him for his labours (25 years), and the great financial outlay incurred in producing the 10 Volumes already published.

	£	s.	d.
Subscriptions already acknowledged	-	-	106 6 0
Brigadier-General L. R. Carleton, D.S.O.	-	-	0 10 6
N. A. H. Budd, Esq.	-	-	2 2 0
M. B. B.	-	-	1 1 0
Officers' Mess, Royal Military College, Sandhurst	-	-	5 0 0
Captain B. M. Ward	-	-	1 0 0
Major M. L. Ferrar	-	-	1 0 0
Lieut.-General Sir P. W. Chetwode, Bart., K.C.B., K.C.M.G., D.S.O.	-	-	5 0 0
Lieut.-Colonel G. Bowring	-	-	0 5 0
Sir C. E. Adam, Bart.	-	-	10 11 0
Officers' Mess, 2nd Bn. South Staffordshire Regiment	-	-	5 0 0
Lieut.-Colonel M. B. Savage, C.B.E., D.S.O.	-	-	2 2 0
The Committee, Rifle Brigade Club	-	-	20 0 0
Major F. Rorke, T.D.	-	-	1 1 0
Officers' Mess, 1st Bn. Devonshire Regiment	-	-	5 0 0
Lieut.-Colonel N. Luxmoore, D.S.O., D.S.O.	-	-	1 1 0
Major-General Lord Edward Gleichen, K.C.V.O., C.B., C.M.G., D.S.O.	-	-	3 3 0
Officers' Mess, The Dépôt, King's Shropshire Light Infantry	-	-	2 2 0
Officers' Mess, 1st Bn. South Wales Borderers	-	-	5 0 0
Major-General W. H. Greenly, C.B., C.M.G., D.S.O.	-	-	2 10 0
Lieut.-General Sir J. A. L. Haldane, K.C.B., D.S.O.	-	-	5 0 0
Brig.-General F. R. C. Carleton, C.B.	-	-	2 0 0
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	£	186	14 6

It is hoped that Officers and Regimental Messes will become subscribers.

IX.—Notice to Purchasers of the "Journal" other than Members of the Institution.

The Council beg to give notice that as from 1st January 1922, all sales of the JOURNAL will, in future, be conducted from the Institution. Applications should

be made to the Assistant Secretary, Royal United Service Institution, Whitehall, S.W.1, to whom all orders and payments should be made. The sales have hitherto been conducted by the Printers.

X.—History of the Norfolk Regiment.

Members who have any documents, relics, or records, or who are willing to contribute notes of any incidents or matter of historical interest, kindly communicate with F. Loraine Petre, Esq., O.B.E., at Bekynton, Farnham Royal, Bucks. Mr. Petre is engaged in compiling the history of the Regiment, including all Line, Militia, Volunteer, Territorial, and Service Battalions.

XI.—Museum Staff.

It is with great regret that the Secretary has to report the death of Mr. John Smith (formerly 1st Class Petty Officer, R.N.), on 27th December, after a short illness. He had been a Museum Attendant for 26 years and seldom away from his duty, was in charge of the Naval Exhibits, and a considerable number of the Ship Models were rigged and restored by him. He will be a difficult man to replace.

XII.—The Museum.

The amount taken for admission to the Museum during the past quarter was :—

£120 9 6 in November.
£ 93 11 3 in December.
£ 91 3 6 in January.

ADDITIONS.

(3476) An Oil Painting by R. Caton Woodville, "Lance *v.* Lance," depicting a charge of a half squadron of the 9th Lancers against 1½ squadrons of the 1st Prussian Dragoons of the Guard in the Battle of the Marne at Moncel, 7th September 1914.—Deposited by the Officers of the 9th Queen's Royal Lancers.

(3477) Decorations and Medals of the late Colonel Lord Raglan (3rd Baron), *viz.* :—

- (1) Insignia (2) and ribbon of the Grand Cross of the Most Excellent Order of the British Empire.
- (2) Insignia (1) and ribbon of a Companion (Civil) of the Most Honourable Order of the Bath.
- (3) Queen Victoria's Jubilee Medal, 1887.
- (4) King Edward VII.'s Coronation Medal, 1902.
- (5) King George V.'s Coronation Medal, 1911.
- (6) The Afghanistan Medal, 1878-9-10.

Lord Raglan served in the Grenadier Guards, Royal Monmouthshire Engineers, which latter Corps he commanded from 1901 to 1908, subsequently becoming its Hon. Colonel; was Under-Secretary of State for War, 1900-2; Lieut.-Governor of the Isle of Man, 1902-19. Died 1921.—Deposited by Major Lord Raglan, Grenadier Guards.

(3478) The Compass of His Majesty's Airship R 34. This Airship was built by Messrs. William Beardmore and Co., Ltd., at Inchinnan, near Glasgow, and made her first flight on 14th March 1919. On the night of 27th/28th May 1919 she flew from Inchinnan to East Fortune, where she was to be berthed. On this occasion, landing being delayed by dense and extensive fog her crew and passengers were obliged to remain in the air for 20 hours without food.

Early in the summer of 1919 the Airship set out from East Fortune for a long trial flight over the Baltic, and returned successfully to her base.

On 2nd July she set out on her famous journey to New York, which was reached on 6th July. She remained moored at Mineola until the early morning of the 10th, when she set out on the return journey. She landed successfully at Pulham in Norfolk on 13th July 1919.

Various flights were made by R 34 from Pulham, and, later, from Howden, Yorks., for training and naval co-operation purposes.

On 29th January 1921, owing to dense fog the ship met with an accident while flying; she was able to regain her base at Howden, where, however, very rough weather was prevailing. There was, unfortunately, no mooring mast to which the ship could be attached, and, therefore, attempts had to be made to get her into the shed. Owing to her damaged condition and the very rough weather this was impossible, and the ship eventually broke up on the landing ground.—Deposited by the Air Council.

(3479) Silver Drums and Bugles, made by Messrs. Hawkes and Son, which are shortly to be presented to the Lancashire Fusiliers, consisting of—

8	Sterling Silver Side Drums.
2	" " Tenor Drums.
1	" " Bass Drums
6	" " Bugles.

The following is the inscription on the Bass Drum:—" These Silver Drums and Bugles were purchased by the Committee of the Lancashire Fusiliers War Memorial Fund in 1921, as a portion of the Memorial to those gallant officers and men of the Regiment who gave their lives for King and Country during the Great War."

They will always be held in Trust for the Regiment by the Senior Regular Battalion at Home.—Deposited by Messrs. Hawkes and Son.

(3480) Early Minton ware, which was purchased by the lender's grandfather at the sale of Admiral Lord Nelson's effects, consisting of Tea-pot and Stand, Sugar Basin, Tea Cup and Saucer, Coffee Cup, and Bread Plate.—Deposited by Mrs. J. W. Gunnis.

(7519) Sudanese Sword; the blade, which is double-grooved, has an inscription in Arabic on it, and the name of the maker, Ferar; it was taken from the Palace of Ali Dinar, Sultan of Darfur, when Fasher was occupied by a column of the Egyptian Army com-

SECRETARY'S NOTES

manded by Lieut.-Colonel P. V. Kelly, C.M.G., D.S.O., May 1916.—Given by Lieut.-Colonel H. J. Huddleston, C.M.G., D.S.O., M.C., Dorsetshire Regiment.

(7520) Sudanese Emir's Steel Cap, taken from the Palace of Ali Dinar, Sultan of Darfur, May 1916. It is thought that it formerly belonged to an archer of the Crusades period.—Given by Lieut.-Colonel H. J. Huddleston, C.M.G., D.S.O., M.C., Dorsetshire Regiment.

(7521) Officer's (Captain) Tunic of the Norfolk Regiment, 1878-1890.—Given by Lieut.-Colonel H. J. Huddleston, C.M.G., D.S.O., M.C., Dorsetshire Regiment.

(7522) Pair of Regimental Colours of the 88th Carnatic Infantry, which went out of commission in 1912. Owing to the re-organisation of the Indian Army this Regiment has now been mustered out (1921).
The Regiment was raised in 1798 as 1st Martin's Regiment and became 2nd Battalion of the 14th Regiment of Madras N.I.; it subsequently became the 28th Regiment of Madras Infantry, and in 1903 the 88th Carnatic Infantry.—Given by the Officers of the Regiment.

(7523) Drum-Major's Sash of the 28th Madras Infantry.—Given by the Officers of the 88th Carnatic Infantry.

(7524) Officer's Helmet, The Inniskillings (6th Dragoons), 1822-1834.—Purchased.

(7525) A small brass box containing a beautifully illuminated copy of the Koran, taken from the body of a Dervish Emir killed at the Battle of Omdurman, 2nd September 1898.
The Anglo-Egyptian Army (23,000) was commanded by Sir Herbert Kitchener, the Dervishes (50,000) by the Khalifa; the latter attacked but were repulsed with heavy loss, and Omdurman taken.
British and Egyptian losses, 500; Dervishes, about 15,000.

(7526) A Sword with Andrea Ferara blade, which has evidently been converted into a Naval Sword of a century ago; it is bequeathed to the Museum by the late Captain R. A. Jones, R.F.A., whose paternal grandmother was descended from the Cromwellian Admiral, Robert Blake; it has always been a tradition in the family that the sword belonged to that Admiral.

(7527) Fragment of the Flag of the Armada Flag-Ship of Don Diego de Piementel, the Spanish Admiral. The ship was driven ashore on the Dutch coast and captured by Pieter van der Does, Vice-Admiral of Holland, who, being a citizen of Leiden, presented the flag to that town; whither it was brought with much ceremony, to the Church of St. Peter and hung in the choir, on 26th November 1588. During the XIXth century the remains of the flag were removed to the Leyden Town Museum, "The Lakenhal," where it is still exhibited.
N.B.—At the back of the document is a translation of it, a view of the Leyden Museum, and a photograph of the flag as it is at present.—Given by J. E. Hodgson, Esq.

(7528) A Dutch book on the "Equipment and Destruction of the Armada," published at Haarlem in 1825. The frontispiece has an engraving of the above flag, and another depicting the capture of the ship and the way which the flag was shown.—Given by J. E. Hodgson, Esq.

(7529) Officer's Waist-belt Plate of the Bengal Staff Corps, Army Medical Staff, and Staff undress.—Purchased.

(7530) A Boy's Sword, with steel blade marked "Garde Impériale du Roi de Rome."—Given by H. H. Harrod, Esq.

(7531) Lock of Hair cut from the head of the arch-rebel "Tantia Topee" on the scaffold, immediately after his execution at Sepree, Central India.
Tantia Topee was commanding the forces of Nana Sahib, who was instrumental in betraying the helpless women and children of the 32nd Regiment which ended in the Cawnpore massacre.—Bequeathed by Major R. C. Lofthouse, M.D., 32nd Light Infantry.

(7532) Teak Walking-Stick made from the timber of the "Fox."
The 25th "Fox" was a small screw yacht fitted out in 1856 by Lady Franklin for service in the Arctic to search for the remains of Sir John Franklin's Expedition, commanded by Captain Sir F. L. McClintock, R.N. She sailed in 1857, and during that winter was locked up in the ice, but in the following year she managed to reach a bay down Prince Regent Inlet. In the spring of 1859 a boat, two skeletons and many articles were discovered, also an important document which revealed the fate of Franklin and his devoted followers.
On the ship's return she was sold to a Danish firm for sealing; she reported on a projected cable between N. America, the Faroe Islands, Greenland and Iceland; was for several years engaged in carrying kryolite from Greenland to Denmark; subsequently she was sold to the Danish Government and employed on coastal service off Greenland. In 1912 the "Fox" conveyed a Swiss expedition to the west coast of Greenland; on returning she grounded south of Egedesminde (about lat. 69° N.), but was towed to Godhavn on the south of Disko Island, her last resting-place. The Swiss expedition erected a monument: "Til minde om 'Fox,'" in the form of a gas cylinder on the top of a hill near Jakobshavn.—Given by Professor A. C. Seward, M.A., F.R.S., Hon. Sc.D., Master of Downing College, Cambridge.

(7533) An Oil Painting depicting the 15th Lancashire Volunteer Artillery manning the Perch Rock Battery at the mouth of the Mersey in 1878. The corps was raised and commanded by Colonel John Mewburn, V.D., J.P., who had previously served in the Canadian Militia; it had gained much distinction at Shoeburyness.—Given by J. Mewburn Levien, Esq.

(7534) Field-Marshal's full-dress Tunic with Aiguillette of Field-Marshal Earl Kitchener of Khartoum, K.G., K.P., G.C.B., O.M., G.C.S.I., G.C.M.G., G.C.I.E.—Given by Commander Viscount Broome, R.N.

(7535) German Imperial Flag taken at Bukola, Lake Victoria Nyanza, German East Africa, in 1916 by a Naval Contingent under Commander G. S. Thornley, D.S.O., R.N.—Given by Mrs. M. Farrant.

(7536) The following Uniform of the 21st Lancers (Empress of India's):—full-dress Tunic, Girdle, gold lace Cross Belt with silver ornaments, silver Pouch, set of gold Cap-lines, Sword-belt and Knot, pair of Overalls, Lancer Cap with white cock's-tail plume, which formerly belonged to the late Major A. M. Pirie, D.S.O. The Regiment was disbanded in 1921.—Given by Mrs. A. Pirie.

(7537) Full-dress Sabretasche of the 21st Hussars.—Given by Mrs. A. Pirie.

(7538) A pair of full-dress Epaulettes of the 9th Foot about 1840.—Given by Mrs. A. Pirie.

(7539-7542) The following Scale Models (1/600), viz. :—
 H.M.S. "Inflexible," Battle Cruiser, in the rig of 1914.
 H.M.S. "Vanguard," Battleship, in the rig of 1914.
 "Von Moltke," German Baltic Cruiser.
 "Helgoland," German Battleship.—Made and given by W. E. Waller, Esq., Assistant Physician, St. George's Hospital.

(7543) A carved wooden Candle-stand ; the base is made from wood of H.M.S. "Boyne," dated 1795; the upright stem of wood of H.M.S. "Royal George," dated 29th August 1782, and the top of wood of H.M.S. "Temeraire," dated 21st October 1805.—Given by Edward C. Sewell, Esq.

(7544) Officer's headdress Plate, Royal Dockyard Battalion, 1846.—Given by Major H. G. Parkyn, O.B.E., 5th Rifle Brigade.

(7545) An Admiral's Pennant of the German High Seas Fleet which was flying at the foretop of Admiral von Reuter's Flagship "Emden II." when that ship, together with the remainder of the German Fleet, was scuttled at Scapa Flow in 1919. The "Emden" was salved by H.M.S. "Royal Sovereign," the pennant being secured by one of the crew, who presented it to the donor.—Given by Dr. Alexander J. Copeland.

(7546) A piece of carved wood from the stern gallery of H.M.S. "Hindustan," which ship was broken up in 1921. She was the third ship in the Navy of the name (or Hindostan), of 80 guns, launched at Plymouth in 1841, 3,242 tons burden; from 1864 to 1905 she acted as part of the training establishment for Naval Cadets at Dartmouth under the general name of "Britannia," and subsequently merged into the training establishment for boy artificers at Portsmouth, her name being changed to "Fisgard."—Given by Messrs. Castles' Shipbreaking Co., Ltd.

(7547) A Flag of the Transvaal Republic, taken at Cronje's Laager, Paardeberg, on 27th February 1900, by Captain C. J. Eccles, D.S.O., late 16th Lancers.

(7548) Photograph of a pencil Sketch by Mortimer Mempes of Field-Marshal Viscount Wolseley, K.P., G.C.B., O.M., G.C.M.G., given to the donor by the late Viscountess Wolseley.—Given by the Rev. Thomas H. Falkiner.

(7549) Officer's Chako Plate of the 14th Regiment, 1829-45; Private's Chako Plate of the Light Company, 41st Regiment; the Guards' Pack Badge, George III. period; and Chako Plate of a Hanoverian Light Infantry (Jäger) Battalion, which had formerly been a unit of the King's German Legion.—Purchased.

(7550) Oil Painting, by J. St. H. Lardner, of Field-Marshal the Viscount French, K.P., G.C.B., O.M., G.C.V.O., K.C.M.G., Colonel, 19th Royal Hussars.—Given by the Officers of the 19th Hussars on disbandment, on the understanding that, should the Regiment be re-raised, it is to be returned.

(7551) An Oil Painting, by G. Nicolet, of Colonel Percy H. S. Barrow, C.B., C.M.G., 19th Hussars. He commanded that regiment from 1884 to 1886, and in his day was considered one of the leading Cavalry Officers. Commanded a corps of Mounted Infantry in the Zulu War, 1879, and the Boer War, 1881, and was in command of the 19th Hussars during the Nile Expedition, 1884-5; was severely wounded at El Teb, which caused his death.—Given by the Officers of the 19th Royal Hussars on disbandment, on the understanding that, should the regiment be re-raised, it is to be returned.

(7552) Pair of Drum-Banners presented by H. M. Queen Alexandra to the 19th (Queen Alexandra's Own) Royal Hussars on 20th June 1913.—Given by the Officers of the 19th Royal Hussars on disbandment, on the understanding that, should the regiment be re-raised, they are to be returned.

(7553) Sharp's patent 4-barrelled rim-fire Pistol 1859, the barrels are fixed but the striker on the nose of the hammer revolves.—Given by H. H. Harrod, Esq.

(7554) A first proof Engraving, "The Execution of King Charles I.", of the picture by William Fisk, engraved by James Scott, published January 30, 1838, purchased at the sale of the Artist's effects.—Given by Wilfred Mathieson, Esq.

(7555) A first proof Engraving, "The Trial of King Charles I. in the Westminster Hall," of the picture by William Fisk, engraved by James Scott, purchased at the sale of the Artist's effects.—Given by Wilfred Mathieson, Esq.

(7556) A Persian battleaxe, formerly belonging to Amir Khan, the great Pindari. The translation of the inscription is:—"For the enemies of Shah e Nusubb (Ali, the fourth Khalifa), I hold in my hand this sharp axe—the spiller of blood. The axe became so covered with the blood of warriors as to resemble over their heads the combs of fighting cocks."—Given to Colonel J. Biddulph by the grandson of the Pindari Leader.—Bequeathed by Colonel John Biddulph, late 19th Hussars.

- (7557) A silver Snuffbox, commemorating the action fought on May 30th, 1781, between the British Frigate "Crescent" and the Dutch Frigate "Briel." Engraved on the lid is a representation of the combat, with an inscription in Dutch.—Bequeathed by Colonel John Biddulph, late 19th Hussars.
- (7558) A Pennon taken on the battlefield of Changiawan (September 9th, 1860), Second China War, by the late General Sir Robert Biddulph, G.C.B.—Bequeathed by Colonel John Biddulph, late 19th Hussars.
- (7559) A German clockwork Shell Fuze, introduced by them towards the end of the Great War, but found to be unreliable.—Given by Major G. M. Ellison, Lincolnshire Regiment.

XIII.—Lending Library.

Arrangements have been made with the Admiralty and War Office whereby books may be sent out to Members of the Lending Library through the official Letter Bags. Books so issued must be returned in the same way. This will only apply to Officers serving in over-sea Stations at which the official Letter Bags are delivered. These books must be returned within 6 months from date of issue.

Some 500 articles selected from magazines, such as the *Fortnightly*, *National Review*, *Edinburgh Review*, etc., have been made into a series of pamphlets, which will be issued on loan to members working up for Service examinations.

These articles include many on Political questions, Trade and Labour and subjects of a non-Service nature.

XIV.—Royal Processions.

The Council have decided that in future on occasions of Royal Processions and others passing down Whitehall, Members only are to be admitted into the Institution Building. The Museum will be closed to the Public, and the windows of the Banqueting Hall will be available for Members and their friends (2) personally introduced.

The Council Room is reserved for Members of the Council, and the Secretary's Office for the Secretary and the Staff of the Institution.

No places will be reserved. The emergency exit from the Theatre, which opens into Whitehall Gardens, will be available for Members and their friends until a quarter of an hour before the procession passes.

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No. 465.

[Authors alone are responsible for the contents of their respective Papers. All communications (except those for perusal by the Editor only) should be addressed to the Secretary, Royal United Service Institution.]

BOLSHEVISM AND SECRET SOCIETIES.

By MRS. NESTA WEBSTER.

On Wednesday, 2nd November, 1921, at 3 p.m.

MAJOR-GENERAL E. T. DICKSON (Member of Council) in the Chair.

THE CHAIRMAN: My Lords, Ladies and Gentlemen, it is my pleasing duty to introduce to you, although probably she does not require much introduction, the lady who is going to honour the Institution by giving a lecture here to-day, Mrs. Webster. Mrs. Webster has asked me to tell you that she is very sorry she was not able to come on the date that was originally arranged for the lecture, the 19th October, but unfortunately she was then suffering from a severe cold.

LECTURE.

GENERAL DICKSON, MY LORDS, LADIES AND GENTLEMEN, I have been asked to speak to-day on the question of Bolshevism and Secret Societies. I do not propose to go over the same ground that I covered in the lecture I gave here last spring, and that I treated more in detail in my book on "World Revolution." At the same time I have here the chart that I used for my former lecture and that was reproduced

in an improved form in my book, because it will make plain to you the course that I am following this afternoon; which is not to deal with the entire revolutionary movement, but only with the question of Bolshevism, its origins and its nature. For that reason I shall have no occasion to allude to that particular side of the chart which deals with Anarchy, but only with the genealogy of Bolshevism and its connection with secret societies.

There is a great deal of confusion on the meaning of the word Bolshevism. The popular expression "Bolshevist" has come to denote a man with long hair who waves a red flag and wants to smash windows. Now that is really the description of an Anarchist not of a Bolshevik. Bolshevism is not Anarchy, it is rigid discipline, and it is in this sense that I shall treat it—in its technical sense of *Communism*. In fact, the word Bolshevism is very little used at present by its advocates and Communism has come to take its place. The present Bolshevik Party in Russia style themselves the Communist Party, and their adherents in this country are known by the same name. Every day in the papers we read of the activities of the Communists.

What then is Communism, the word that is setting the whole world aflame? What do Communists want? What are the aims of Communism? Let us go right to its origin and understand the real meaning of the word. Communism literally means renouncing the right to private property and holding everything in common. There are several aspects of Communism which I will tabulate one by one, the first being Theoretical or Utopian Communism.

Utopian Communism is a very old idea, that dates from as early as Pythagoras and Plato, that was described by Sir Thomas More in his *Utopia*, that was indicated by the philosophers of the eighteenth century in France. Perhaps the most interesting sketch of Utopian Communism is the book of William Morris, "News from Nowhere," because that deals with Communism as applied to our existing social system. This book was published in 1891. In William Morris's picture of a Communist or Socialist England we see certainly a Utopia of the most remarkable kind. Everyone works for the common good; everyone is happy; the sun always shines; all the women are beautiful, and everyone enjoys their work. Men laugh and sing as they mend the road in a broiling July sun because they know they are working for the common good, waitresses in the restaurants are never short-tempered but trip in and out, smiling like stage soubrettes with property trays of food. Well, all that is very charming and it has no doubt fired the brain of many an ardent young Socialist. The point is, how have these ideas answered when they have been applied to real life?

So we come to the second phase of Communism, *Practical Communism*. The first form of practical Communism to be dealt with is Religious Communism. Communism first originated, as far as we know, in practice, with the early Christians. Only a few years after the beginning of the Christian era an attempt was made to have everything in common.

No man said that he possessed anything, but all was put into a common fund. But we know how quickly that system broke down, owing to the defection of certain so-called Communists, for we are all familiar with the story of Ananias and Sapphira who kept back part of their goods and would not put them into a common fund. As a matter of fact we know very little of how Communism ended amongst the early Christians; we simply know that it did end, that somehow or other it died out.

The same idea has been revived many times again in history, notably in Germany during the 15th and 16th centuries, when innumerable Communist Sects were formed on the theories of the early Christians. There were the Hussites, the Taborites, the Adamites, the Brothers and Sisters of the Free Spirit, the Apostolicans, the Anabaptists—who all in turn tried to make Communism work. One alone of those Societies succeeded in keeping alive for nearly 100 years—the Anabaptists of Moravia, but their Communism was only of a partial kind. Private property was allowed. They only gave of their superfluity to each other, and inequality was maintained. Moreover, we shall find that in all the other attempts to establish Communism by these German Sects every kind of scandal crept in. Community of wives was advocated by several, because the system of the family was found to be opposed to pure Communism. It is obvious that a man cannot desire the good of the whole community to the same extent if he has a family whom he puts first. Therefore the community of wives was adopted by certain of these Sects, and in the case of the Anabaptists of Münster it developed into actual polygamy. An echo of this movement is to be found in the Digger Movement during the Commonwealth in England, which advocated Christian Communism but again failed, and moreover secured no popular support. In Germany, in many instances, the peasants joined with the nobles to suppress the Communists.

Now, what was the principal reason that Communism failed? Because Communism is contrary to human nature. The principle on which it is founded, that the right to private property is one of the evils of civilisation and is not natural, is absolutely wrong. The love for private property is inherent in all human nature. It has nothing to do with civilisation, but is to be found in the most natural states. It is to be found in children of the earliest age. Even a baby would not appreciate a Communal rattle. It says: "My rattle," and it dares any other baby to take it away from it. Go lower still into the animal kingdom and the dog says: "My bone," and it feels this not only in the matter of things to eat, but with regard to its own possessions. Everyone who has kept a dog knows how fiercely it upholds the right to private property.

Communism then is a principle so abhorrent to human nature that it can only be founded on a strong belief in religion. It has been successful in monasteries and nunneries where monks and nuns, from a spiritual incentive, have renounced all love of earthly things and

consequently the desire to possess. Under these circumstances alone the renunciation of private property has been made possible. Apart from monastic institutions, Religious Communism ended in the XVIth century.

Now why was it that, in the face of all these failures, the idea of Communism was suddenly revived in the 18th century by the philosophers of France, and at the same time the only thing which made Communism possible, religion, was eliminated from the scheme? How do you account for this extraordinary revival of the idea of Communism in the minds of such writers as Mably, Morelly, Diderot, Rousseau, and others? That is where I believe the *rôle* of the secret societies comes in, for we find that exactly as the idea of Communism grows throughout the 18th century so the *rôle* of Continental masonry grows in power. When I refer to freemasonry I want to make it absolutely clear that I am not referring to British masonry, which we date from about 1717. The form of freemasonry to which I refer is the freemasonry of the Continent, but especially of France—of the Grande Loge Nationale, of the Grande Chapitre, and finally of the Grand Orient, founded in 1772. These Lodges, departing from their original aim of benevolence, of true brotherhood, of respect for Government and for religion, renounced religion and became centres of political intrigue so that by 1772 they were hotbeds of sedition. This movement culminated with the institution of the Order of the Illuminati. I do not want to go over again to-day all I have said about the Illuminati because I have dealt with this subject very fully in my book and in previous lectures. I only want to answer one criticism that has been brought against me. People say that I have attributed to the Illuminati the ideas which Weishaupt propagated. They point out that these revolutionary ideas did not originate with the Illuminati. I never said they did. I say that Weishaupt and his Illuminati *used* these ideas. This is the important point to remember: *the conspiracy working for world revolution never creates; it always uses an existing movement and turns it to its own purpose.* That was what Weishaupt did. He originated nothing, but he used and combined the ideals of Communism, the theories of the philosophers, the *régime* of the Jesuits—by whom he had been brought up and against whom he turned and became their bitterest enemy—and also the secrecy and organisation of freemasonry. These things he not only used and combined but *perverted*. The keynote of this conspiracy is perversion which runs through the entire movement—to take a good and noble thing and turn it upside down and make it mean exactly the opposite, to take a vile thing and glorify it. Thus the secret societies have taken certain degrees of masonry and perverted them and degraded them, they have used the theories of the philosophers, the ideals of Communism, and the doctrines of religion. This was the plan of Weishaupt—to take these great and noble ideas and to combine them with the policy of Machiavelli (for the code of the Illuminati is full of Machiavellism) and with occultism and magic. There can be

no doubt that the Illuminati had what one might call an occult department of their Order, and this is where we find that a certain Jewish influence enters into the movement. The Jews had been throughout the Middle Ages the greatest masters of magic and of occult science, and the Illuminati employed the Jew, Cagliostro, who was initiated into the Order at a Lodge at Frankfort on the Main, to carry out the affair of the necklace.

Further, not only occultism but actual black magic and Satanism entered into the movement. I want to make it perfectly clear that Satanism is not an imaginary thing. The cult of Satan has existed for hundreds if not thousands of years. It has been practised in the East and in Europe since very early times. In Italy it was known in the Middle Ages, I believe, as "la vecchia religione," but it culminated in Bavaria, where it found many converts, and we shall find a very decided strain of Satanism throughout the whole revolutionary movement, as I shall show you, up to the present day.

Such then was the organisation of the Illuminati. So terrible did it appear to those who knew and understood it that at the beginning of 1789, before the Revolution began, the Marquis de Luchet, in his pamphlet "Essai sur la secte des Illuminés," foretold everything that was to happen in the Revolution, he foretold the emigration, the depopulation of France and her domination by a "terrible and fanatical horde," and appealing to the rulers of Europe, he cried: "Masters of the world, cast your eyes on a desolated multitude; listen to their cries, their tears, their desires. A mother asks you to give back her son, a wife asks you for her husband, your cities for the fine arts that have fled from them, the country for citizens, the fields for cultivators and religion for forms of worship . . ." Was not this an exact picture of France during the Terror that was to take place five years after these words were written—even to the detail of the women following the tumbril that carried Fouquier-Tinville to the guillotine, crying out: "Give me back my son! Give me back my husband!" Yet this amazing prophecy has been entirely ignored by history! To his contemporaries, de Luchet's warning doubtless appeared unbelievable, for, as he pointed out: "Nothing like this had ever before appeared on earth, no such calamity had ever yet afflicted the world." "This society," he declares, "aims at governing the world, it will continue through the ages like a smouldering fire breaking out in devastating explosions." To the incredulous he answers: "Extraordinary, unbelievable, unique, but not chimerical!" This is exactly what I wish everyone would believe to-day. It is so extraordinary that people say it is unbelievable.

The French Revolution was the exact fulfilment of the system of the Illuminati. Take, for example, one point: the campaign against religion in 1793. Can one attribute it to the French people, to the working classes or the peasants of France, that the churches of Paris were desecrated, that the crucifixes were stamped on, that the Bible was cast into the flames? But when we know that it was part of the

ritual of black magic and of Satanism, we see where the influence of the Illuminati and their allies, the Satanists, comes in. In the ritual of ceremonial magic, for "infernal evocation," we read: "It is requisite . . . to profane the ceremonies of the religion one belongs to and trample its holiest symbols underfoot." Is not that exactly what was done in France and in Russia?

I do not propose to go over the question of the French Revolution in detail, because I have already dealt with that fully elsewhere. I have shown that Robespierre was a member of a Lodge of Illuminati, that Babeuf, who brought about the Communist rising in 1796, was affiliated to a Lodge of the Philadelphes, also a development of the Illuminati, and that it was through these men that a new phase of Communism was introduced, that is to say, Secular Communism. This, again, must be sub-divided into two:—

- (1) Forcible Communism, as planned by Robespierre and Saint Just and as advocated by Babeuf, and
- (2) Voluntary Communism, as attempted by the theorists of the nineteenth century, of whom you will see the group on the chart—Saint Simon, Buchez, Louis Blanc, Cabet, and, in England, Robert Owen.

Now all these men made attempts to carry out Communist experiments, and all again failed. What was the reason for this revival of Communism in the face of the fact that its principles had inspired the reign of terror and the conspiracy of Babeuf? Again, secret societies. It is no mere theory of mine that Communism was propagated by the Secret Societies in the first half of the nineteenth century, for, as I have shown, it is stated in the "Histoire du Socialisme" of Malon, the Socialist, who says: "Communism was handed down in the dark through the Secret Societies," largely through the agency of Buonarotti, the friend of Babeuf, and since I wrote this, an article in the *Labour Monthly* for last August, which appeared two months after my book was published, repeated almost word for word what I had said. Nor is it a theory of mine that the Revolution of 1848 was inspired and organised by the Secret Societies; you will find it in every history. The idea of Communism thus continued until 1848, when Socialism really collapsed. Every theory had been tried and had been found a failure.

So we come to the new era in the history of Communism, "Bogus Communism," the theoretical variety inaugurated by Karl Marx. Marx, as we know, was a member of a Secret Society. Marx did not believe a word of Communism—of this I am convinced. If Marx had really believed in Communism would he not have felt some respect for his predecessors—for the Utopian Communists to begin with, for Thomas More, for the philosophers of France or for any of the earliest experimenters in practical Communism? Would he not have felt respect for the early Christians, who began to put it into practice, for the Secular Communists of the nineteenth century, Louis Blanc, Cabet, or Owen?

Not a bit of it! Marx derides them all. He sneers at Louis Blanc and at Owen. It is he who calls them the "Utopian Socialists." He sneers likewise at Christianity, which alone made Communism possible. He sneers again at the people, for whom he has no respect whatever. His pretence to destroy capitalism is shown to be a fraud by the fact that Marx himself lived on capital wrung from the British workers and given to him in the form of a bounty by his friend Frederick Engels, who was a rich Lancashire cotton manufacturer. Can you tell me that Marx honestly believed in destroying capital when he himself lived on capital acquired in this manner? The theory of Marx and his clique in the first Internationale of Working Men, defined by their colleague, the Socialist Malon, as "The nationalisation of production and distribution of wealth," *i.e.*, Communism, was described by Bakunin as "the vilest and the most formidable lie which our century has engendered—the official democratism and the red bureaucracy." Those were the words of the anarchist Bakunin, not of a reactionary, but of a man who knew Marx and said he was a constitutional liar, who found him out in every kind of deceit and fraud and who vehemently denounced the manœuvres of what he calls the "German Jew Company," Marx and his friends, in the Internationale.

Now what is Bolshevism? Bolshevism is avowedly Marxism. If you will follow the chart you will see that the Bolsheviks are the outcome of the Russian Social Democratic Party, which descended from Karl Marx and the first Internationale. They are admittedly the disciples of Marx; they have attempted to follow slavishly everything he advocated, so that we will add here as a sub-heading: "Practical, Bolsheviks." There we have the sub-divisions of Bogus Communism: (1) The Theory of Marx, and (2) The practice of the Bolsheviks. Not only was Bolshevism founded on the theories of Marx and of the German Jew Company, as Bakunin described it, but it was propagated in Russia by another German Jew Company. We have all heard how Bolshevism was established in Russia, but perhaps the details are not known to everyone. Lenin was an old friend of Parvus, alias Helphaut, a Jewish member of the German Social Democratic Party, who was also an agent of the German Government. They used to combine those *rôles* under an Imperial Germany! Parvus thought Lenin would be a useful agent for Germany. He introduced him therefore to Bethmann-Hollweg and Ludendorff, who put him into the sealed train and sent him with Radek alias Sebelsohn, and a number of other Jews, to Russia. Amongst the principal Jewish leaders of Bolshevism were Trotzky alias Braunstein, Kameneff alias Rosenfeld, Zinovieff alias Apfelbaum, Litvinoff alias Finkelstein, alias Buchmann, alias Harrison, but whose real name is said to be Meyer Vallakh, son of Moses. It has frequently been asked: Why were all these Jews employed to bring about the Bolshevik Revolution? There are several stock answers that we usually receive when we ask that question. One answer made by the advocates of Bolshevism is: "Oh, but they are not Jews. It is not true to say

that Russia is ruled by the Jews, the greater number of Bolsheviks are not Jews." Then, supposing you produce the figures and prove that they are, there is another answer forthcoming—which incidentally quite contradicts the first—and that is: "Well, you see the Jews were the only people clever enough to run Russia; the Russians were too stupid. Only the Jews were capable of organising the country." Then, supposing you say: "But what has their organisation amounted to? It has turned the granary of Europe into a vast famine area; it has broken down traffic; it has ruined the industry of the country; it has destroyed religion; it has almost destroyed Russia; it is reducing the population by millions. What then of this wonderful organisation?" there is a third answer forthcoming. "Oh, well, the Bolsheviks were idealists. Of course, they meant well, their idea was splendid, but it has not quite succeeded." I wonder how you can reconcile those two explanations, that the Jews were the only people clever enough to run Russia and yet that their organisation has resulted in the most ghastly failure that has ever been known in the history of civilisation.

Now let us examine how they established their supremacy in Russia. They established it in two ways, first by means of the old Okhrana, that is, the secret police of Russia as employed under the Czar. It has been told me on very good authority that Lenin was formerly employed by the Okhrana—or secret police—under the Czar and that he knew a great deal of its workings, so that when he returned to Russia he had the whole organisation under his control. At any rate, he himself admits in one of his speeches that it is through the Okhrana that they are ruling Russia. Then, secondly, they established their supremacy by the German Army. They were not only sent to Russia by Germany but they were reinforced by German officers, who trained the Bolsheviks. German marksmanship was detected after a time in the extraordinary improved shooting of the Bolsheviks. A certain Russian described to me how on one occasion, when he was fighting with the White Army, they held up a train of German soldiers going to join the Bolsheviks. At first they thought they might be Communists, for they had "Spartacus" carefully written on their train, but when they questioned them they found they were German officers of the old Imperial Army. Those men were going to drill the Red Army and teach them how to subdue the country. I state then as my profound conviction that the Bolsheviks are not fanatics but agents. Study their pamphlets and see whether you can detect in them any strain of fanaticism. If you go back to the French Revolution and read the pamphlets of Robespierre and others, you will find fanaticism there; you will find some original fire; but the Bolshevik pamphlets are the dreariest, the driest, the dullest stuff I have ever attempted to wade through. I tried the other day to read Trotsky on Terrorism. Here at least, I thought, I shall have something exciting and sensational, but it was as dull as all the rest, and if you cannot be sensational when you are writing on Terrorism you must be very dull-witted. I am told by people who have been in Moscow

lately that there is a growing impression that Lenin's pamphlets are written for him, that there is something behind all this, that there is some power behind the Bolsheviks, that, in fact, there is some Secret Council which is organising this movement in Russia and all over the world, that that Secret Council has its seat not in Moscow but in Germany. It is true that Moscow sends out the orders, and officialdom in this country regards Moscow as the headquarters of the conspiracy. No doubt Moscow is the headquarters in the same sense as G.H.Q. out in France during the war, but behind G.H.Q. was the War Office, and behind the War Office was the Cabinet. So with Moscow. There is something behind Moscow that is directing this movement in all parts of the world, and of which the aim is the aim of Weishaupt, the abolition of property, of religion, of marriage, of morality, of monarchy and of ordered government, not for a mere return to savagery but for a new autocracy.

Now I ask you to consider the avowed system of Bolshevism, not as it is described to us by reactionary or other writers, but as described by the Bolsheviks themselves in their own tracts. Read the tracts of Lenin and Trotzky, read the laws of the Russian Republic, read how under Bolshevism every man and woman under 50 years of age is forced to work eight hours a day at whatever labour is allotted to them by the Government, how marriage is to be abolished, how no man is to call his wife his own, how homes are to be broken up, how religion is not to be tolerated, how everybody is to be reduced to such a state of servitude that the old time slavery would be preferable. There is nothing more appalling than the description of the Bolshevik system as given by Bucharin in his "Programme of the World Revolution," where he says that everyone is to do their tale of work and come to receive their grant of food and clothing at the end of the day in return. How can anyone advocate that system? How is it possible that this thing set down in black and white by its advocates is glorified by people in this country? How is it conceivable that hundreds and thousands of people are going about in England saying that Bolshevism is a noble and beautiful thing, and that it would be well to attempt it over here? The people who say this are either agents deliberately deceiving people—men with an inordinate love of power, who imagine that if Bolshevism were instituted they would step into the position of a Lenin or a Trotzky or a Danton or a Robespierre, with the lives of men and women in their hands—or they are simply dupes. I believe there are a great many dupes in this country. I think this is where it is so important to understand what Communism is, because the greater number of these dupes imagine that Bolshevism is genuine Communism. They think that it is really perhaps an attempt to go back to early Christian Communism or to the Utopian Communism of William Morris. If you could bring it home to them that Bolshevism is not Communism at all, that the Bolsheviks do not pretend to entertain any of these ideals, that, like Marx, they deride Christian Communism in common with Christianity as a whole, that they deride Utopian

Communism and the efforts of such men as Cabet or Louis Blanc, that Bolshevism in fact is a fraud and stands for something perfectly different, I believe you would have a great effect on public opinion in this country. As long as you say Communism is wrong, the people who believe in Communism will go on advocating Bolshevism and will not believe you, but the point is that Bolshevism is not Communism at all. That is realised by one of the best known Socialists in this country, Mr. Adolphe Smith, who has repeated to me again and again the statement that Bolshevism is not Communism; it is a fraud; it has nothing in common with the ideals of early Communism. So people who are deluded imagine that they are helping a genuine and popular movement by advocating Bolshevism. It is neither popular nor honest.

Take these points one by one. It is not a popular movement—

Firstly, because it has never been conducted by men of the people, but always, from the beginning, by middle or upper class theorists.

Secondly, it has been necessary in every country to carry it on by means of alien agitators—in the first French Revolution by Italian and other Southern brigands; in the present world revolution by foreigners of all kinds—in Russia, Jews, Letts and Chinese; in Italy, Germans and Czecho-Slovaks; in England, Jews, Poles, Russians, natives of India, and so on.

Thirdly, foreign money has always been imported to finance the movement. We know what vast sums were required to carry on the first French Revolution, and we know that at the present time the whole work of agitation depends on the amount of money the agitators can raise. Can anyone then seriously claim that this is a popular movement which needs alien agents and alien money to keep it going? No, neither genuine nor bogus Communism is a popular movement. Consider what the people really want and apply the theories of Communism to their demands.

Take first the non-revolutionary proletariat—to use the Socialist expression—or, in other words, the great mass of the working-class. What do they wish for? They wish for better houses, good wages, reasonable hours of labour; above all they cling to the family. Many care for religion. Do they want Communism? Do they want to be condemned to forced labour, to live in Communal parallelograms, to have their wives and children taken away from them and their homes broken up? Far from it. There is nothing that the working-classes detest more than officialism and institutions—they love their own homes, their own things. The last thing they want is to renounce the right to private property and have everything in common. So even if Bolshevism were genuine Communism the working-classes would not be for it. But, you will say, the working-classes are not all Conservative; there is the revolutionary proletariat. Quite so, but what does the revolutionary proletariat want? Does it want to renounce the right to possess? On the contrary, it wants to possess more. The revolutionary proletariat is anarchic; it is not Communist. Anarchy is a genuinely popular

revolutionary movement. Yes, Anarchy is popular. It is easy to stir the masses with the idea of loot and pillage and of possessing what they have not got already. The Russian peasants responded immediately to the idea of seizing the land belonging to the nobles, but when they were asked to cultivate that land for the good of all they said : "No, thank you !"

Or, again, Anarchy may be the outcome not of greed or of envy but simply of despair. We cannot forget the genuinely submerged. But just as in a shipwreck one can understand the feelings of the drowning who, as they see people seated safely in the lifeboats whilst they are sinking beneath the waves, may crave in their frenzy to overturn the boats and all drown together, so the submerged in life may crave to overthrow the social order in which they find no place. That is a human feeling, but a feeling nevertheless which must not be allowed to have play. For just as if the men in charge of the lifeboats did not detach the clutching fingers of the drowning—a terrible necessity!—it would mean the loss of all, so any government must suppress Anarchy, but we must sympathise with the feeling that often prompts it. That is the real feeling of the workers when they incline to revolution.

Now the conspiracy at work uses this feeling of anarchy in order to bring about its own ends, just as it has used everything else. As it has used Freemasonry, as it has used Christianity, as it has used Feminism—that is a point on which one could enlarge at some length)—as it has used Trade Unionism, so it insinuates its agents everywhere. When it sees a wound it tries to irritate it further. So it tries to fan up human passions into flame. The whole theory of this conspiracy is perversion and double-dealing. Those two words characterise the whole movement. Where have they originated? I think if you will examine history you will find that the idea of perversion is characteristically German. The idea of liking to turn a thing upside down is peculiarly characteristic of the German mind. For example, in the "Life of Nietzsche" we find it said : "His thoughts stole inquisitively along forbidden paths : 'This thing passes for a value. Can we not turn it upside down? This is regarded as good. Is it not rather evil?'" That is the whole theory of Satanism, the whole theory of this evil form of occultism which has run through the revolutionary movement—to turn everything upside down, to call evil good and good evil.

And double-dealing—where do we find double-dealing most persistently practised? In Germany. We have seen it during the war. We have seen it in the rulers of Germany for 150 years. Frederick the Great, who pretended to refute Machiavelli, was perhaps one of the greatest disciples Machiavelli ever had. Machiavellism underlies what we call German militarism. It is not really militarism that we are out against. Too much has been said of German militarism and not enough of German philosophy. Militarism in so far as it means bravery, love of country, self-sacrifice, discipline—is a fine and noble thing, who can say a word against it? It is the psychology behind German militarism that is the

real danger, the Machiavellism that underlies it. If any here is not familiar with Machiavelli's "The Prince," let him study it and he will find that all the principles it contains were carried out in the recent war—the theory of organised cruelty to the enemy, of the end justifying the means, the policy of the scrap of paper, of tearing up your bond if it does not suit you to keep your promise. You will find the whole idea of Prussian militarism in Machiavelli. Germany with her perversion and double-dealing is carrying on this conspiracy to-day in conjunction with her Jewish allies. Prussian militarism and German Jewish finance organised the Bolshevik Revolution and are maintaining it everywhere. People frequently say: "How can you suppose that rich Jewish capitalists can wish to overthrow capital?" That is precisely because they are accepting Bolshevism at its face value, because they do not realise that Bolshevism is a bogus movement, that it does not really set out to overthrow capital but merely to make capital change hands. If Bolshevism triumphs, it will not be the international Jewish financiers who will lose their money. Again, we are told that Germany is too much afraid of Socialism and of Bolshevism itself to wish to encourage it, that of course Germany could not be behind this movement, because she is terrified of Bolshevism; she is always telling us that she will "go Bolshie" if we are not careful. Germany will not "go Bolshie"—there is not the faintest danger of it—and we must not be taken in by this plea. There is a movement, growing in strength in this country, for joining forces with Germany against Bolshevism. I think that is one of the most dangerous ideas of the day. I have heard people say: "Oh, the Germans are the only stable people; it would really be better to come to an understanding with them. We cannot depend on the French. Let us ally ourselves with Germany and restore peace to the world." Now is it likely that Germany is going to oppose Bolshevism or Socialism in this country when it provides her with such an extraordinarily powerful weapon? Consider the two principal aims of Socialists in this country at the moment: first of all, an Irish Republic. Socialists in this country masquerading as "Labour," are out for an independent Ireland, not for a self-governing Ireland but for an Ireland that can organise itself as an enemy Power, that can provide a base for submarines, a training ground for troops, that can be the most frightful danger to us in a future war. What is the other great aim of most Socialists in this country? To break our *entente* with France. The French, we are told, are imperialistic. Was ever such nonsense talked about the French, who dreaded going into the war, who went into it with bravery and quiet courage, hating it and loathing it, but ready to die for their country? They never want a war again. I speak of what I know, for I was brought up in France, I was brought up on the memories of 1870, when the savagery of the Prussians was still fresh in the minds of the people. I know that the French have never wanted war. They only wanted to carry on their usual avocations peacefully and without hindrance, without this perpetual fear of invasion from the east.

Now consider those two aims of the Socialist Party—an Irish Republic and the *Entente* broken. Germany makes war on us, and there are we flanked on the one side by an enemy Ireland, with a population brought up to hate and loathe the name of the English, ready to join with any of England's enemies; and on the south France, enraged with us, turning on us with all the fury of a friend who has been betrayed. There are we between those two hostile forces, crushed between the upper and nether millstones. If that is what Socialism is going to bring to us, do you think that Germany will relinquish Socialism as a weapon? Never. She will propagate it for all she is worth. She is propagating it now. Read the books by our so-called moderate Labour Party, our moderate Socialists. Are they not all permeated with pro-Germanism? Do they not fraternize with alien enemies in our midst? I feel that I speak with heat, but I have been a great deal out of England, and, as it was once said: "They little know of England, who only England know." I know what it is to come back to England from another country. I know the kindness, the goodness, the humanity of England, and, alas, its guilelessness, its innocence and its simplicity, and it makes my blood boil to see the scum from all over Europe taking refuge in our midst—living under our humane and generous laws, protected by our police, and plotting against us, hating us, showing us no gratitude, nothing but contempt. Socialism is aiming now at everything that will help the enemy.

Apart from those two broad questions of Ireland and France, Socialism encourages pacifism and anti-patriotism; it stands for alien immigration. At the Labour Conference in Scarborough in 1920, one of the resolutions carried was the removal of all restrictions on the immigration of Eastern Jews. Alien immigration is one of the planks of the Labour Party's platform. There are not enough houses for our people, there are not enough jobs to go round, but they advocate alien immigration. It is the last thing the people want. Yet that is one of the Socialists' particular stunts.

What is the explanation of all this, and who is inspiring it? Germany, working through Illuminism. Illuminism is a reality. We are asked to believe that Illuminism died out in 1786. But Illuminism exists now. The original Society was refounded in Germany in 1880. It had continued under various forms all through the nineteenth century. It is active in England at the present moment; Secret Societies here are propagating the doctrines to which I have referred. Amongst those are the Co-masonry, also "The Star of the East," which is subtly enlisting women by the promise of "emancipation" and "the equality of the sexes"—a perfectly senseless formula and like that of "the dictatorship of the proletariat." There is no such thing as "the dictatorship of the proletariat," and there is no such thing as "the equality of the sexes."

But there is an even more serious aspect of the Secret Societies and of the Illuminati in this country. I do not know if everyone here is aware that Satanism is practised in England. In 1916 the principal

Satanist church was closed down in London by the police and the principal leader was driven from the country. These Satanists were inspired by Germans. I have seen the books of this Society, published between 1910 and 1916, on which is written: "The Journal of Scientific *Illuminism*," and yet people declare that I am talking nonsense when I assert that Illuminism exists. If anyone doubts me, let him go to the British Museum and look up the "Equinox" amongst the periodical publications, and he will find it to be the Journal of the British Illuminati, whose apparent object is moral corruption in every form. I believe officialdom regards these people as unconnected with the political movement. I am absolutely convinced that they *are* connected, that they are working together. They have always worked together. The Bavarian Illuminati set out to corrupt. The Alta Vendita which followed them covered the railway bookstalls with demoralising literature. Demoralising art and demoralising literature have always been propagated by the various developments of Illuminism, and I am perfectly certain that these people to-day are working in conjunction with the revolutionaries. Though they may not all know it, they are directed by a common head, a Common Council. A short time ago, a very remarkable article appeared in the *Times* for 7th September 1921, where a manifesto was quoted which had been published in the *New York Herald* and other newspapers, protesting against certain "advanced schools of art" as "the work of degenerates and neurotic egomaniacs styling themselves worshippers of Satan, the God of Ugliness." "This movement," the manifesto goes on to say, "is part of a Bolshevikistic campaign to break down law and order and destroy the entire social system." Thus it is active in America and it is going on here. The same men who are playing a part in this work of demoralisation are the enemies of England, are propagating pro-Germanism, are working against this country.

Now, if only it could be realised that there is this international conspiracy, then there would be some hope that we might be saved. But the one thing that the conspiracy fears and dreads is that there should be known to be a conspiracy. As long as we continue to treat Ireland and India as separate questions, unconnected with each other, they know they are immune. It is just as if you were to go on applying face cream to a leprous sore. As long as you treat only the surface, then you can do no harm to the conspiracy. You must get to the bottom; you must find out what is poisoning the blood; and that is what they are afraid of. You will find that the Press will publish any denunciations of Bolshevism as long as you content yourself with saying: "Bolshevism is all wrong. What terrible things are happening in Russia—how dreadful!"—as long as you do not touch on the *dessous des cartes*. The moment you say it is an international conspiracy, the moment you attempt to link it up, the suborned Press either boycott you or receive you with a howl of fury. The *Morning Post* is the only paper that dares to tell the truth and it is doing a wonderful work in

that respect. The conspiracy, like the owl, which Weishaupt took as his emblem, fears the light, and discovery means defeat. Let us realise that in fighting this conspiracy we are not opposing the people. We are opposing the most frightful enemies of the human race that have ever been known. Already they are beginning their work. I do not think there is much fear of bloody revolution. With the breaking of the weapon of the general strike, the fear of the reins of power being seized by a *coup d'état* was at any rate momentarily crushed, but we are in danger of disintegration. Already that is at work. Initiative is being crushed; anti-patriotism is being propagated; the minds of the children are being poisoned in the Sunday Schools; women are being turned against family life; religion is being ridiculed; and the cinemas, organised by aliens, are disseminating demoralising influences. We are being slowly poisoned, slowly undermined. We have passed through the storm of the Great War, and just as we thought we could rest safely in harbour again, we find we are not safe after all. Let us remember those words of Browning :—

" Some ships safe in port indeed
 Rot and rust
 Run to dust
 All through worms in the wood that crept
 Gnawed our hearts out while we slept.
 That is worse ! "

We are asleep and the worms are at work, and the great structure British Christian civilisation is being undermined whilst we sleep. We must awake. We must awake and act before it is too late.

DISCUSSION.

THE CHAIRMAN : It is now my unhappy duty to make some remarks, as no member of the audience apparently desires to speak on this most interesting lecture. Like you, I find that Mrs. Webster's arguments are quite unanswerable. I have no doubt that many of those present have read Mrs. Webster's latest book, "The World Revolution." Probably many of you may have laid it down and wondered why the arguments which she brings forward have not struck somebody before. To my mind it is a most convincing book; one puts it down thoroughly convinced that she has made all her points; and, if I may be allowed to do so, I should like to congratulate Mrs. Webster on the very forcible and conclusive way in which she has made her points to-day.

I have nothing more to say, except that I am sure I shall carry you with me in proposing a very hearty vote of thanks to Mrs. Webster for coming here to-day and giving us a most interesting lecture.

LIEUT.-GENERAL Sir E. BULFIN : Mr. Chairman, Ladies and Gentlemen, it affords me the greatest possible pleasure to second the resolution.

The resolution of thanks was then put and carried by acclamation.

A resolution of thanks to the Chairman for presiding, which was proposed by Lieut.-General Sir E. Bulfin, was passed, and the meeting then terminated.

HORSE MOBILISATION.

By BRIGADIER-GENERAL T. R. F. BATE, C.M.G., Inspector of Remounts.

On Wednesday, 16th November, 1921, at 2.30 p.m.

LIEUT.-GENERAL SIR NOEL BIRCH, K.C.M.G., C.B., R.A., Director-General of the Territorial Army, in the Chair.

THE CHAIRMAN: Ladies and Gentlemen, I do not think that General Bate requires any introduction. Anybody who has had any connection with remounts since 1914 must know a great deal of his work, because he has held most important positions. I will now ask him to deliver his lecture.

LECTURE.

BEFORE dealing with this sufficiently large and important subject in detail, I would like to impress on my audience the axiom that the lower the peace establishment of one's Army, the greater and more difficult is the task of mobilisation. At the present time peace establishments are considerably smaller than in 1914, and this fact coupled with the decreased horse population (a subject I shall touch on later) makes the necessity for a well-organised scheme of horse mobilisation an essential which few who really consider the subject can dispute. A well-organised scheme for horse mobilisation means a well-organised Remount Service. Whereas this was eminently essential in 1914, it is doubly so now in view of the fact that the horsing of the T.F. Army, as well as of the Expeditionary Force, are the responsibilities of the Remount Service.

HORSE MOBILISATION.

The subject of this paper is called Horse Mobilisation. For descriptive purposes I think it is easiest to divide the subject into three main phases:—

- (1) What has taken place in the past?
- (2) What is the present situation?
- (3) What is intended, so far as one can tell, for the future?

In dealing with the first phase I do not intend—except in very general terms—to go further back than the period shortly before 1914.

To the best of my knowledge a cut-and-dried scheme for the mobilisation of horses to meet the requirements of the Expeditionary Force and the Territorial Forces in the case of General Mobilisation

was first inaugurated in 1913, although a printed Memorandum entitled "The Impressment of Horses in time of National Emergency" was issued by the War Office in 1912.

As explained in this Memorandum, it had been for many years and still is a part of the Law, under the Army Act, that when a National Emergency has been declared, it is lawful to impress by hire or by purchase such animals, etc., as may be required for the use of His Majesty's Forces.

In 1913 we go a step further and the Remount Regulations were published.

In these Regulations it laid down that the Mobilisation in horses of the units of the Expeditionary Force and of the Territorial Forces and of Reserve and other units is carried out in the United Kingdom under the orders of the General Officer Commanding-in-Chief of the Command in which the units are stationed.

It goes on to say that in cases where the effective Peace Establishment is less than the War Establishment units are completed:—

- (a) By transfer from other units under War Office or Command instructions.
- (b) By the calling in of Boarders and of horses of the Reserve, *i.e.*, registered or subsidised horses.
- (c) By impressment under Section 115 of the Army Act.
- (d) By purchase in the open market.

I must apologise for quoting at such length from somewhat dry Regulations, but as they form the basis of the past, present and future schemes of Horse Mobilisations it is impossible to describe the subject without doing so.

About this time, 1912-13, Commands, for Horse Mobilisation purposes, were divided into Remount Circles, each circle being administered by a Deputy Assistant Director of Remounts.

You will remember the four methods laid down by the Remount Regulations for the provision of horses to bring Peace Establishment up to War Establishment.

We need not spend much time on the first two methods, *viz.*, transfer from one unit to another or the calling up of Boarders and of the Reserve of Horses.

The former does not concern us and the latter dealt with only a small number as compared with the total number required, except in so far as the Cavalry Boarders were concerned.

The third method—Impressment—in 1914 provided for 90 per cent. of the horses required, and is bound to be the chief method of provision at all times, and is therefore the chief item of description.

In the 1912 Memorandum on Impressment it says: "Under modern conditions it is not possible to put off the preparation for War till War is about to commence. Full and careful preparation in peace is essential. It has, therefore, been found necessary that horses and vehicles suitable

for War shall be duly surveyed in peace time and entered in a Register. And also to provide for an organisation that will ensure that the required animals and vehicles shall be promptly impressed, paid for, collected and issued to the troops that require them."

I think you will agree with me that truer words were never written.

To this end Remount Circles in Commands were organised and these circles further sub-divided into areas corresponding as far as possible to one or more petty sessional police areas. From the time of appointment of Deputy Assistant Directors of Remounts until early in 1914 Territorial Adjutants were employed in making classification lists in their areas of horses suitable for military purposes.

These lists were edited by the Deputy Assistant Directors who send in the totals by classes to Command Headquarters. Command Headquarters from the above totals sent into the War Office a consolidated return of horses, in their different classes—riders, draught, pack, etc.—which the Command could produce.

From these returns the War Office completed and issued to Commands what is known as the Remount Statement.

This Remount Statement is a table giving the detailed requirements of the Army in horses on mobilisation. It also gives detailed instructions as to where these horses are to come from.

To hark back again to those Remount Regulations, the Remount Statement first shows the disposal of all horses possessed by the authorities, *i.e.*, transfer of horses from units not required for mobilisation to units which are required plus the calling up and posting of Boarders and of horses of the Reserve. It then goes on to show the additional requirements of each Command and how these are to be met either within the Command or from other Commands. These may be called the horses not in possession, and have to be found by Impressment.

So far I have attempted to show you, in the first place, the sequence of the building of the organisation and then the frame-work of the organisation itself which produced the horses for mobilisation in 1914.

I will now try and show you, without going into much detail, how that organisation was worked.

We have got our Remount Circles which are further sub-divided into Districts. You will remember these Districts were for purposes of classification-lists up to April 1914 being worked by Territorial Adjutants.

In April 1914 these Adjutants were replaced by District Remount Officers. The reason for the replacement being that their Remount duties were found to seriously interfere with their regular military duties. There was also the additional and obvious reason that in many cases the Territorial Adjutants had not the necessary technical knowledge for the work.

So far I have only described what might be called the paper work of the Scheme.

We now come to the actual method of procuring the horses. Each

Remount District was sub-divided into two or more purchasing areas. For each purchasing area there were one or more purchasers.

These purchasers were civilians selected in peace time by the District and Circle Officers from amongst those who were known to be good judges and in other respects suitable for the job.

Their work only began when the button had been pressed for mobilisation, but they had already been made fully conversant with what was required of them, except the actual quota they had to buy.

When the button was pressed the Purchasers got their lists from Command Headquarters together with a signed requisition of emergency.

This requisition of emergency enabled the purchaser to require a Justice to sign a Warrant ordering the Police to impress any animals shown on the Purchaser's List.

The District Officers had already arranged Collecting Stations in each Purchasing Area and the horses were either purchased at the Collecting Stations or sent there after purchase.

Purchasers were also given lists of units, together with a time-table, to which they had to send horses and at the end of each day each Purchaser reported his progress to Command Headquarters.

I think it would now be opportune to give you some figures which show what was actually done by the method described. In 1914 the Expeditionary Force had a Peace Establishment of approximately 19,000 horses. Its War Establishment included 55,000, so the first mobilisation of horses had to produce 36,000.

As you know this was successfully done in ten days.

It will interest you to know at the same time that the results of classification in 1912-13 gave a total of 374,000 horses suitable for military purposes—exclusive of Heavy Draught.

I have only given you the figures required for the Expeditionary Force but the mobilisation of the Territorial Force as it stood in 1914 required another 81,000, while reserve units which in time of War are used to supply reinforcements of horses as well as of men, required another 18,000, bringing the total requirements up to 135,000 in round numbers. So you will see that the problem which confronted the authorities in 1914 was the probable necessity of the quick provision of 135,000 horses.

So much for my first phase.

Let us now consider the question of Horse Mobilisation as the situation is at present.

The possibilities or probabilities of there ever again being a necessity for Horse Mobilisation on a very extensive scale may be left for the present, and I will confine myself to actualities.

After, and indeed during first mobilisation in 1914, the Remount Service as regards the organisation just described was considerably disorganised by many D.R.O.'s and D.A.D.R.'s being taken away for more active duties.

During 1919 as the armies became demobilised the original frame-work was again established.

Again early in 1919 what is known as the £7 10s. Boarding-out Scheme was initiated. I will describe this later on. In 1919-20, while the Remount Service was being re-established, the old organisation was being scrutinised with a view to possible improvements and reductions.

It will probably interest you to know that—although you have been informed to the contrary through a leading Press Organ—it has been found possible to reduce the pre-war Establishment of officers in Great Britain by 20 officers.

Circles have been entirely eliminated and now District Officers deal direct with the Remount representative (D.A.D.R.) at Command Headquarters while the District officers in Scotland have been reduced by 40 per cent.

This was the first big reform and is in practice now. Otherwise the frame-work is as it stood in 1914. I say "frame-work" advisedly as several changes in procedure have been initiated.

In 1920 a census of all horses in Great Britain was taken by the police at the instigation of the Army Council. This gave District Officers a guide—but only a guide—to help them in preparing their classification lists. Theoretically up to 1914 District Officers—or in the first place T.F. Adjutants—were supposed to make classified lists of all horses in their Districts which were suitable for military purposes.

It has been recognised that this is an unnecessarily laborious task for every year, and it has been decided that in future the War Office will allot a quota to be produced by each Command who in turn will allot a quota to each District, the basis of calculation in the first place being taken from the lists complied in 1920-21.

From this you will see that while the system of 1914 is being preserved the horse is being put in front of the cart instead of behind it.

It will be immediately realised that owing to constant changes of horse population from one cause or another the basis of calculation will have to be renewed from time to time.

To meet this it is proposed to have a census of all horses at periodic intervals which have not yet been exactly fixed, and the year of the census or the year after full classification lists will be prepared by District Officers and the various quotas changed, if necessary, to meet the fluctuations.

This means that the District Officer will have more time for his other important duty which is a burden imposed on him since the end of the war.

I alluded to the £7 10s. Boarding-out Scheme. First let me say that any Boarding-out Scheme is and can only be a complement to the general scheme for Impressment. In 1914 there were three sorts of what you might call ear-marked horses on which the Military Authorities could lay their hands quickly in time of National Emergency.

These were :—

- (a) The Cavalry Boarding-out Scheme by which Cavalry Regiments boarded-out from their ranks the number of horses to bring them up to War Strength.
- (b) Subsidised horses.
- (c) Registered horses.

As (b) and (c) no longer exist we can dismiss them.

The Cavalry Scheme on a slightly different basis was re-started in 1919 but has not proved successful and the intention is to merge it into the £7 10s. Scheme.

The £7 10s. has several functions. It was started as the result of a recommendation of a Committee on the demobilisation of Army horses which sat in 1917, and of which the Chairman was Sir Gilbert Greenall, the objects being :—

- (a) To provide a reserve of suitable horses on mobilisation.
- (b) To meet the requirements of the Territorial Force for their annual training.
- (c) To encourage the breeding of horses.

Its first inception embraced the somewhat ambitious total of 100,000.

Actually the greatest number ever boarded out was about 15,000, and there are now out about 12,000.

As this Boarding-out Scheme is at the present time more or less "sub judice," I will confine myself to saying that it has proved its usefulness so far as the supply of horses for the annual training of the Territorial Army is concerned, and it is obviously a most useful reserve in the event of a partial mobilisation.

I can go a bit further than this and say that the Territorial Army *cannot* be efficiently horsed for their Annual Training without a Boarding-out Scheme.

From this it will be seen that the £7 10s. scheme is by no means the least of the Remount Department's responsibilities, and that an organisation of District Officers is essential on behalf of the Territorial Army quite apart from the requirements of the Regular Army and the question of mobilisation.

To sum up the present situation we have a similar organisation, but on a reduced scale, to that found successful in 1914 plus a Boarding-out Scheme which would allow us to put our hands at once on 12,000 horses in place of the subsidy and registration schemes of 1914 which dealt with 10,000 and 7,000 horses respectively.

Now I suppose it is necessary to approach the thorny problem of the future, though I must confess I do so with the greatest diffidence.

There appear to be two main schools of thought—one which says : "what's the use of making any preparations with regard to horses when the Army of the future will be all motor traction," the other, which dislikes new ideas and is biased in favour of the horse.

I think that as usual the half way between the extremes is likely to be correct.

In any case, I do not think that motor traction is yet so far advanced that we can neglect making preparations for mobilising the horse.

The number of horses, and especially horses suitable for military purposes, is an almost daily diminishing quantity in this country.

I think I would be correct in saying that quite 75 per cent. of the horses required for mobilisation are Light Draught horses. There is no class of horse which is being so quickly ousted by motor traction in trade.

If perfection in military motor transport and especially in motor transport for guns was likely to advance as quickly as trade motor transport I would then say the horse question as far as the Army is concerned—with the exception of cavalry—is, if not dead, moribund, but until more is known on this subject the horse question is still important. Again the cavalry horse is fast disappearing and can we yet say what is going to replace cavalry?

I have perhaps emphasised the case of the Light Draught horse to such an extent as to put the cavalry horse situation somewhat in the shade. It cannot be allowed to remain there. The numbers of cavalry horses required for mobilisation are certainly less than those of the Light Draught horses, but the number in the country from which we can draw is dreadfully small. It is a fact that going round the country as I do, I hardly ever see a cavalry trooper so it is most necessary to have a reserve of cavalry horses as well as of gun horses.

This situation must be specially emphasised, for you will realise that whereas the job of the gun horse in war is practically the same as his job in peace, that of the cavalry horse is quite different and the latter requires a special training.

What does such a prospect mean? In my opinion, and I hope it is the opinion of all those who have the subject at heart, it means that unless something far-reaching and effective is done towards the promotion of light horse breeding in the very near future we shall be very liable to find ourselves in an unpleasant, if not hopeless, position. In my opinion one of the first palliatives of the present situation is the publication of a fixed programme of the approximate number of horses which will be purchased annually for the next five years by the Army Authorities.

The success of keeping the armies supplied with horses throughout the late war was mainly due to our ability to transport vast numbers of animals from abroad.

This method could never be used for first mobilisation as they could not be got in time.

In future wars the general opinion seems to be that the difficulties of transporting thousands of animals from America or elsewhere will be so increased as probably to make the task impossible. All this goes to show that, in another war we should be obliged to rely almost entirely on our own resources within these shores

Such a prospect, I think it will be agreed, should keep the horse question, and therefore the question of Horse Mobilisation, a live factor for some years to come.

DISCUSSION.

MAJOR-GENERAL SIR JOHN MOORE, K.C.M.G., C.B. (A.V.S.) (retired): I should like to say a few words on two subjects in connection with the lecture. In the first place, I desire to congratulate General Bate on his most excellent lecture. It was not too long but it provides material for a large amount of discussion. The two matters that I particularly wish to speak about are, firstly, tractors *v.* horses, and, secondly, the question of remount organisation to meet the necessities of war. I do not hold with General Bate or with anyone else that the days of the horse are over so far as the Army is concerned. Tractors will have just as much influence on the Army in war as bicycles had on the production of horses when bicycles came into vogue. The present deficiency of horses is a passing one, I am sure, and we must not look at future requirements by present day circumstances. I have been going around country districts lately and I have been carefully noting the number of tractors to be seen on the land doing agricultural work. In my part of England, which is the agricultural portion of Northumberland, I have seen two tractors only. One of those belonged to the Duke of Portland, who is a big landowner, and the other belonged to the Ashington Coal Company, which is the largest Coal Company in the world, so that they both belonged to very wealthy people and not to the ordinary farmer. The ordinary farmer cannot afford to have a tractor; he must have an animal that will work day by day. As you know, a tractor is used probably for ploughing and then has to be laid up in cottonwool for the rest of the year. Canada is a progressive country so far as agriculture is concerned, but I had a letter the other day from a friend of mine in that country, who said that agricultural people in Canada are now going back to horses and discarding the use of tractors. The advent of tractors was a sort of flash in the pan; they were the idea of the moment. We must remember that during the war, especially the latter part of the war, agriculture was in everybody's mind and a lot of money was put into it. As soon as the war was over many young officers and others took to agriculture and their first thought was to employ a tractor. This young officer friend of mine, who is very well known in Canada, wrote to me saying that the position now in Canada is that 75 per cent. of horses and 25 per cent. of tractors are used, and that tractors are going down and down the hill.

The second question that I wish to speak about is the remount organisation. I have been associated with remounts for many years and the Remount Service is a great friend of mine. We have had many happy days together. I think the remount organisation is susceptible of very great improvement. The recent war has very clearly shown that every Administrative Service—it does not matter whether it is the Remount Service or the Veterinary Service (to which I belong) or the Army Service Corps—ought to be self-contained. In my opinion the Remount Service is not self-contained. The Director of Remounts, who is at the head of it, is perhaps an officer who belongs to the Army at large—a cavalry officer at one time and an artillery officer at another. The principal purchasing officers, the Deputy Directors of Remounts, are on the Retired List. Why should those officers be on the Retired List? Why should it be necessary to put an officer on the Retired List before making him a remount officer? Col. Wood,

the most splendid purchaser of remounts for Cavalry, Col. Ferrar, who knows probably more than anyone in England about the Artillery horse and how to obtain suitable artillery remounts, and Col. Bridge, who knew perfectly the Army Service Corps requirements, were placed on the Retired List. In war time, civilians are put in to do the work. My contention is that the Remount Service should be a Corps, just the same as the Royal Army Veterinary Corps or the Army Service Corps. There is no reason whatever why the Remount Service, as we call it, should not be a Corps pure and simple, or why officers of great knowledge in the matter should not be transferred to it, if necessary, from other branches of the Service. We know that there are a good many officers in the Army who would be very suitable for dealing with horses, and they would be better employed in the Army in connection with remounts than they would be in connection with the guns or the artillery. I am certain that we should score both from the economic and from the organisation points of view if we adopted in our Army a proper Remount Corps.

MAJOR C. B. TOMS : I should like to ask whether, after the button has been pressed on mobilisation, any steps will be taken to prevent the buying and selling of horses, by persons other than those appointed by the War Office to purchase on their behalf.

BRIGADIER-GENERAL T. R. F. BATE, C.M.G. : The question that has just been asked by Major Toms is legislated for in the 1919 Amendment to the Army Act, Section 115, which enacts that anyone, other than a person authorised by the Army Council, who traffics in horses, *i.e.*, either buys or sells them, after a national emergency has been declared, is liable to six months imprisonment or, I think it is, a fine of £100, or both.

LIEUT.-COLONEL T. B. PHILLIPS : With reference to the remarks by the last speaker, I should like to say that I was a buyer during the mobilisation. I went round various districts, hoping to get horses, and I was constantly told that the Government buyer had been round the previous day and purchased all the horses. I found that the gentlemen in question purchased these horses at a very different price from that which they obtained when passed on to the Government buyer in the next district. That was very sickening to me. I constantly reported it, but no steps were taken. They went round commandeering horses and paying for them at a less price than the regular Government buyers gave for them, but we had no redress. Some days I went out hoping to get twenty or thirty horses, but in the result I got only five or six. I think that in future all Government buyers ought either to be dressed in uniform or have some authority with them in order that they may make their identity known. All the farmers knew that horses were being commandeered, and it was only necessary for a man with sufficient cheek to go round and say : "I am a Government buyer; I am going to take that horse," and he got it.

THE CHAIRMAN : They have to wear an armlet now which has been approved.

BRIGADIER-GENERAL T. R. F. BATE, C.M.G., in reply : I should like to be allowed to refer to General Moore's speech, in which he spoke about the agricultural horse. I think it is forgotten by a great many people, but certainly not by General Moore, that the agricultural horse provides a very small number of the horses which are required for the Army. The history of the heavy draught horse, which is the agricultural horse, is rather amusing. The fact that the heavy draught horse was included in the mobilisation of 1914 was due to one cause and one cause

only, namely, that the number of light draught horses obtainable was not sufficient to go round until the horses which we expected to get from America arrived, which was not, speaking from memory, until about the middle or the end of October, 1914. The horse I referred to as forming 75 per cent. of the Army establishment on mobilisation is not the agricultural horse, except in a very small part of the country, and that I think is one of the chief what I might almost call dangers of the future, because there is only a very small part of this country which produces the light draught horse in agriculture. General Moore I am sure will agree with me in that.

MAJOR-GENERAL SIR JOHN MOORE: Yes.

THE CHAIRMAN (Lieut.-General Sir Noel Birch, K.C.M.G., C.B., R.A.): If no other officer desires to speak, it only remains for me to sum up the discussion. The question whether the Army is going to use a tractor or a light draught horse or any other type of horse is not one for us to settle. It is a question of the policy of the Army Council. But I am sure you will all agree, Ladies and Gentlemen, that General Bate has done a great deal of good to-day in formulating the seriousness of the question of the supply of horses for Army purposes. There is no doubt at all that we are coming to a stage where it is not only a matter of mobilisation but a matter of carrying on the ordinary training of the Army. The Army that I am interested in and love so much is the Territorial Army, and there it is a matter of the greatest difficulty now to get horses. We have Members of Parliament talking in the House against the reduction of the Cavalry and saying there should be more Yeomanry, but it is no use having either Cavalry or Yeomanry Cavalry unless you have not only sufficient horses to mount them in peace time, but sufficient for the purposes of mobilisation in war time. It is not practical politics in any way. Another question that arises is that, whatever we do, whether we have a tractor Army or a horse Army, we must pay for it. The Government has no money now, so what are we to do? There is only one solution that I can see, and that is to have a large boarding-out scheme, and the way to pay for that is by means of the *pari mutuel*, which the country will not introduce. We are the only nation in the world that has races and does not have the *pari mutuel*. I believe the reason is that we are too good as a people!! I think it is time we reconsidered this because we could take a million out of the *pari mutuel* and start a fine boarding-out scheme with breeding included, and thus keep our horses, which have done so much for our race in the past and will do so in the future.

That is all I have to say, except to thank General Bate in your name very much indeed for the interesting lecture he has given us this afternoon.

On the motion of Lieut.-Colonel Sir Arthur Leetham, C.M.G. (Secretary), a hearty vote of thanks was accorded to General Sir Noel Birch for his kindness in taking the Chair, and the meeting terminated.

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On the motion of Lieut.-Colonel Sir Arthur Leetham, C.M.G. (Secretary), a hearty vote of thanks was accorded to General Sir Noel Birch for his kindness in taking the Chair, and the meeting terminated.

THE OFFICERS' TRAINING CORPS.

By COLONEL H. EARLE, C.B., C.M.G., D.S.O. (Deputy Director of Staff Duties).

On Wednesday, 30th November, 1921.

MAJOR-GENERAL SIR A. L. LYNDEN-BELL, K.C.B., K.C.M.G., (Director of Staff Duties), in the Chair.

THE CHAIRMAN : Ladies and Gentlemen, I see from the paper in front of me that the first business is that "the Chairman introduces the lecturer." I hardly think it is necessary to do so, because there are very few people who do not know Colonel Earle and much about him, but I feel that very few people know the debt that this Empire of ours owes to him in connection with his work in the O.T.C. In 1908, when the O.T.C. very first started, all soldiers who thought about it saw that it would not be very long before we were involved in a war with Germany. Colonel Earle and a devoted band of colleagues of his set to work in view of this pending war and proceeded, in spite of some opposition and a certain amount of ridicule, to try and build up what we knew we should want, that is a reserve of young officers. The fruits of their labours were very soon apparent in 1914, because about October, 1914, our Army in France found itself in most desperate straits. It suffered the most tremendous casualties in young officers, and as far as could be seen there were no means of replacing those casualties. It was at this time that the O.T.C. sent over thousands of young officers, and young officers of the right type, to fill up the ranks of our Army in France. Since the war Colonel Earle has had on his shoulders the entire task of reconstituting the O.T.C., no light task I can assure you, for I know. This task he has carried out with the most tremendous success, and at the present moment I am glad to say that the O.T.C. is in a more flourishing condition than it ever has been. Colonel Earle occupies a position entirely unique in the O.T.C. Beloved and trusted by them all, I do not think I am exaggerating when I say that he is the soul of the Corps. Therefore I feel that when the Royal United Service Institution selected the lecturer to speak about the O.T.C. they could not have made a more suitable choice. Colonel Earle knows everything that is to be known about the O.T.C.; what he does not know is not worth knowing. I will now ask him to proceed with his lecture.

LECTURE.

IT is curious in these after-war days how short the memory is for pre-war events. I am constantly asked who started the Officers' Training Corps. The originator of the idea, as far as I can make out, was the poet Milton, who, 250 years ago, defined "a complete and generous education" as one which fitted a man to fill justly, skilfully and

magnanimously all the offices, both public and private, of peace and war. He even went on to say that up to 21 a young man should with much exactness and daily muster serve out the rudiments of his soldiership in all the skill of embattling, marching, encamping, fortifying, besieging and battering, with all the helps of ancient and modern stratagems, tactics and warlike maxims. The Army Council have changed the verbiage of this syllabus, but the spirit is the same, and it is because the work of the Corps fits people to carry out their duties in after-life justly, skilfully and magnanimously, that the Officers' Training Corps is popular with those who in schools and universities are responsible for training the future leaders of the nation.

Lord Haldane was Secretary of State when the scheme was introduced, but I am sure that he himself would be the first to admit that the credit of successfully launching the O.T.C. in Schools and Universities was due to a number of then Junior General Staff Officers who served in the early days in the Officers' Training Corps Branch in the War Office.

Many of them have risen to high rank and some are now no more. There is one of these latter whose name and memory is very much alive among the older Officers in Schools and Universities, Major Meiklejohn, V.C., Gordon Highlanders. He was a leader of the first rank and the spirit he inspired, in spite of all that has happened since his death, still lives in the Corps.

It was in 1907, that Lord Haldane carried through the scheme of rejuvenating the various existing cadet volunteer units in Schools and Universities by making them into a uniform Corps; giving them a definite task and allotting them money from War Department Funds. Many of the audience may recollect in their School and University days the despised volunteer and cadet corps. These corps were without supervision, without funds, without official encouragement and, most important of all, without an object. If there are any Commanding Officers of O.T.C. here to-day they may complain that they are still without funds, though I fear we cannot persuade members of the Finance Department of the War Office to agree with them. Prices since the war have roughly doubled, and the grant has risen in the schools by 30 per cent. I make no comment on this beyond recording a case of economy in these days when so many changes of squandering money are being made against "Whitehall."

I need not deal with the discussions on the formation of the O.T.C. suffice it to say that it is based on the Territorial and Reserve Forces Act of 1907. There is one item in this Act that affects some schools unfortunately, in that it is laid down that national funds will not be devoted to the training of boys of less than 16 years of age in State-Aided Schools. I always feel myself that the effect of this clause was not fully realised 14 years ago, for I know it re-acts harshly in certain very deserving cases.

The O.T.C. was born on 16th March 1908, by a Special Army Order announcing the fact that it had been decided to form an Officers' Training

Corps. The object of this Corps "is to provide students at Schools and Universities with a standardised measure of elementary Military Training with a view to their eventually becoming Special Reserve and Territorial Officers."

In the first year, 123 Schools and 14 Universities responded and formed contingents; on the outbreak of war the figures were 164 Schools and 23 Universities; the numbers to-day are the same as in August 1914.

Were funds available there is room for more Schools, for the demand for officers in war is very great. In the complete calendar year 1917, when the Army was shrinking rather than swelling, more than 40,000 Army commissions in fighting units were awarded.

In Schools and Universities it was scarcely realised 13 years ago how soon their work would be put to the test or how severe would be the strain of a European War. Undoubtedly the war came too early for us to get the full benefit of the output of the new organization, nevertheless when the war broke out we had in the Senior Division 6,170 and in the Schools 21,566 Cadets. In addition, there were approximately 25,000 ex-cadets on our books classified as "previously trained." No doubt these gave us our best Junior Officers in the New Armies. How many of these have now passed away!

When National Service was introduced, the O.T.C. continued to pay the country. In consequence of the work undertaken voluntarily by Cadets, the Ministry of National Service was not obliged to call O.T.C. boys up at 18, and, of course, pay and feed them. We could dispense with their services for another six months and not take them till 18½. This was an advantage to the boy, for it allowed him to continue his schooling, but it was a great saving to the country, and the O.T.C. was a financial saving to the nation.

O.T.C. Cadets were posted direct to Officer Cadet Schools to be trained for commissions. It was striking how well these young lads often compared with the N.C.O. selected at the front and sent home to be trained in these schools.

I should like to emphasize the remarks made in this lecture hall last season by a fine fighting Member of Parliament, Colonel Ward. Of course there have been brilliant exceptions, but his conclusions were on the whole sound. He discussed the question of the training of people for commissions. He said that his pre-war ideas had been changed by his experience. It was not the old N.C.O. who made the best officer. His words were: "I have some grave doubts as to whether you can get the best type of man for a commission, as a rule, from the senior ranks of non-commissioned officers. I do not care twopence whose toes I may be treading upon; I am quite satisfied now that very often, in passing through the different stages of a non-commissioned officer's life, a man acquires habits and methods and a generally peculiar yet interesting outlook as to what Army life really means—a mental outlook I should not like to see grafted upon the higher commissioned

ranks. A commanding officer should be able to see the type of man the recruit is before the man adopts the principles of what we used to term the 'old soldier'; he should be selected and given a trial, and his education and position generally in the Army after selection (even although he might remain in the ranks) should be on the basis that, if he showed real ability, his training environment should be in the officer direction from the time of his first two years in the Service."

That is what we did with the O.T.C. boys during National Service, and in spite of their lack of experience and their youth these boys usually came to the front in their class and led their elders. It was the Public School Training.

Lord Haig in his final despatch alluded to the work the Schools and Universities had done for us. Putting aside the question of health, the most important consideration in a Junior Officer is character. Whether our sons learn much or little of scholarship at Public Schools, they surely gain in character, and one of the chief channels of supply of this mysterious quality is the O.T.C.

So much for the past, what is the position to-day and what are the prospects for the future?

In the Universities the O.T.C. during the war melted into the Army, and to all intents and purposes contingents at the end of the war had to be re-formed. The fact that ever since the Armistice the Universities have been peopled by ex-officers has not been conducive to our raising our pre-war numbers.

Still we are growing. I have always felt that the schoolboy coming up and finding the older undergraduate not in the O.T.C. gave him the idea that he should not join. We could not take the ex-officer, perhaps a Major in the war, and tell him to fall in and we would train him for a commission, yet this very Major was doubtless the leader whom the freshman naturally looked up to for guidance. The ex-officer is disappearing, and the present academic year now commencing will be the first since the war which can be regarded from our point of view as approximately normal. Last summer all the various University Camps were held for the first time since the war on what one may call pre-war lines. In every case they were good value and this fact will be our best recruiting sergeant. There is no reason to be anxious about the future of the contingents of the senior division. Meanwhile the Universities are taking stock of their experiences in the late War. I said before that very few realised in pre-war days what a war would entail. I had then the impression that many learned people in our Universities had been "gassed" by the Hun Professor that war was impossible. It is interesting to remember the rôle of these Professors in the war when they showed themselves as "Arch Huns."

A prominent Minister said after the war that, while many stupid people foresaw it, many clever people did not. Perhaps there is nothing unusual in this: it was neither grand eagles nor wise owls but plain geese which saved the Capitol in Rome.

Now times have changed, and the Universities themselves want things to be cut and dried and carefully thought out before the experiences of the four years of war are lost to sight.

I don't want it to be thought that no preparations had been made prior to 1914, far from it, but the Universities had only theory to guide them, now they are richer, for they possess experience. In 1914 there was a rush to join, men were so moved that they felt compelled to get into uniform to do their bit. This want of system was wholly wasteful. We had men with great brains and ordinary bodies trying to do the work of brainless giants. It is the object of the O.T.C. Branch to try and help the Schools and Universities in their solution of the problem should the times of 1914 ever recur. The Schools and Universities exist for efficient service in the country, and the O.T.C. must help them sort the square pegs and get them into square holes.

In the Junior Division in the Schools the situation is different to that in the Universities, so far from the contingents languishing in the war they thrived both in numbers and efficiency, in spite of the Army Council refusing to increase the number of schools supporting an O.T.C. contingent. The pressure brought to bear to increase the contingents was great, but there were other more important units to arm and supply, so a rigid refusal was always returned to these "foolish virgins." Now the requests are being repeated, but while the soldiers would welcome new schools, the hard financial times and struggle to economise forbids our making new admissions to the O.T.C. fold except when old schools drop out. We have a number of applicants for admission, we are anxious to take them, we can only do so by excluding schools who are inclined to slack. Since the war we have been able to make two such changes; we regretted parting with old friends, but in these days we can't afford to live on sentiment, and if new and energetic schools come up we must let the laggards drop behind. I think many years of dealing with the military side of our schools has taught me never to be surprised at what they do. At the Armistice I anticipated a great reaction in soldiering in schools. I was wrong, but I was not surprised: I expected figures to drop below those of 1914; so far from this being the case, they not only did not even go back to pre-war measure, as the following figures will show:—

							Cadets.
August 1914	-	-	-	-	-	-	21,566
October 1918	-	-	-	-	-	-	30,462
" 1919	-	-	-	-	-	-	30,982
" 1920	-	-	-	-	-	-	31,139

This is due to the Schools realising the great benefit the boys gained from the organization and training. In 1919 I went for the first time to one of our very prominent Schools. The first words the Headmaster said were: "What are you going to do with the O.T.C.?" He said it in the menacing tones in which I used to be addressed when I was

at school, and I fancied I replied, as I used to reply years ago very humbly, "Nothing," to which he said: "I tell you frankly if you abolish the O.T.C. I will continue it myself."

Again we have masters in schools both in and not in the Contingents with war experience. It is not all make-believe now; these masters, besides telling soldiers' yarns, can paint word-pictures of tactical situations in a way that anyone who has not been under fire can never do. The work is not only more interesting, but is much more efficient. This is shown in the Examinations for the Certificates, the standard we believe is maintained, but the work submitted has risen enormously in excellence. In the past the rich and the well-born in the country had the responsibility of leading the men in peace and war. Now it is the educated who have the responsibility, it is a responsibility they must realise, and they are realising it. A boy must remember that if he is lucky to be at this or that school he has advantages, but he has a responsibility in training himself to lead his less well-educated fellow citizens.

Before concluding there is one point to which I wish to allude, although it is one which is not definitely prescribed for in the O.T.C. course. It is physical development. During the last year of the war, when I took up my present work, I found that a number of boys, on reaching 18½, in the O.T.C. at schools could not pass fit for general service. The physical tests for service were much lower than in peace, yet there were always boys who could not come up to the standard. I will not bore you with figures; suffice it to say that they alarmed me, for I felt, from my experience of school days, that if a boy was hard enough and fit enough to stand the life at school till he was 18½ he was surely fit to fight for his country. I recognised too that our school-boy figures compared ill with the pre-war published figures of rejections for the whole populations in France and Germany. The causes of our trouble were usually curvature, flat feet, or flat chest. Is there anything to be done? Parents send their boys to school to be developed in body and mind. We know how the boys are divided into various classes and forms for their mind development, but are they not just turned out into a grass field to develop their bodies. I know that since the war many schools have taken up the question thoroughly and honestly. I doubt, however, if this important subject has yet received the scientific attention it deserves. It is no use saying the matter is less pressing in O.T.C. schools than in others lower in the scale. We live by example, and if O.T.C. schools set the example the matter will be taken up for the youth of the whole country and will tend in the next generation to prevent the charge which had justly or unjustly been levied against us in Great Britain to-day of being a C 3 nation. Let me show you how serious it is; of the 260 boys from school who passed into Sandhurst and Woolwich this present term, no less than 14 per cent. are under chest measurement, and the ultimate grant of commissions is dependent on their coming up to the standard. If one finds this among boys coming from the big schools, what must it be among boys less fortunately placed. I am

very keen on this question, not as a soldier but as a citizen. I can offer you no syllabus of training, I only ask that scientists at Universities should think one out. The Army course nowadays we believe to be near perfection, but for whole-time soldiers, which does not necessarily mean that it is the correct measure for whole-time students.

So important a national question as this naturally receives the whole-hearted support of the O.T.C., for the O.T.C. is to train potential officers, and how can we have efficient officers except among those who are healthy and alert both in body and mind.

That is the position of the Corps to-day. I can say that the policy of the General Staff is to help schools and universities to fit their students to fill justly, skilfully and magnanimously all the offices, both public and private, in peace and war. The corps has stood the test of war. Universities, Colleges and Schools have each a roll of honour of which they are proud, and justly so, for about one man out of every six was killed.

I should like to quote the words inscribed on the monument to the Dover Patrol :—

“ They gave their lives that we might live,
May we prove worthy of the sacrifice.”

DISCUSSION.

LIEUT.-GENERAL SIR EDWARD HUTTON: Mr. Chairman and Gentlemen, I am particularly glad to be present this afternoon to hear this lecture on the most important question of the O.T.C. I was particularly interested to hear from the Chairman as well as from the lecturer that they had a difficulty in tracing the origin of the O.T.C. to its source; the remarks therefore that I venture to make will be valuable as supplementary to what both those officers have said. The Officers Training Corps system is, like the British Army, the evolution of a number of years, and it has been carried to its present efficient position by a number of able men of successive generations. It was my privilege to watch the birth and development of the O.T.C. from small beginnings. The origin of the O.T.C. may be taken to be the volunteer movement in 1860, when both the Universities formed volunteer corps at a very critical time in our Military History, when there was every appearance of a great war between England and France, and the probability of an invasion of this country. The Volunteer Corps at Oxford was a particularly fine one; it was raised and commanded by Edmund Warre, President of the Oxford Boating Club. Warre was an unusual and striking personality. Recently ordained as a clergyman of the Church of England at that date he was not only a great scholar and a great Englishman, but he was perhaps the finest athlete of his time. Warre was in the following year appointed an Assistant Master at Eton College, when he obtained permission to raise a Battalion of Volunteers upon similar lines to that at Oxford. This battalion prospered exceedingly, and it reached and maintained a very high standard of perfection, largely due to the personality of its commander.

Circumstances had made a schoolmaster of Warre, but he was by nature and by instinct a soldier of the best and highest type. He had a natural talent for military tactics which he had several opportunities of displaying in a practical

form in manœuvres at Aldershot, and in a theoretical form by a Lecture upon Tactics given in 1887 before the Aldershot Military Society, which placed him in the first rank as a Military Student of a high order.

Inculcating his own characteristics upon all with whom he came into contact Warre made the Eton College Volunteer Corps a School for Military Training of the best kind, where manliness, honor, devotion to duty, and a fixed determination to "play the game" of life formed the guiding principles of a sound form of military training and discipline.

Dr. Warre's reputation as a Student of Military subjects, his erudition as a Scholar, and his position as Master and Head Master of Eton College—the greatest of English Schools—for 43 years further gave him an influence among his colleagues, the Masters and Head Masters of the Public Schools of the United Kingdom, which caused his system of organization for a Public School Volunteer Corps to be generally accepted, and his principles underlying military training to be universally adopted.

By slow degrees the system—thus originated—gradually developed with marked success to the end of the XIXth Century when its true value was shown in the early stages of the South African War, 1899-1902.

It was in 1900 during this campaign that Doctor Warre read at this Institution (27th June) a most valuable paper upon "*Secondary Schools in connection with the Defence of the Empire*," and it was from this paper that the original scheme was prepared and submitted to the War Office by Doctor Warre for converting the Volunteer Corps which then existed in the Public Schools throughout England into a form of O.T.C. This scheme had been previously submitted by Doctor Warre to the Headmasters' Conference held in February of 1900, of which he was Chairman, and was received with extraordinary enthusiasm by all the Headmasters present, at least 100 in number. It was quite evident that there was a feeling throughout the larger Public Schools of this country that the time had arrived for doing something of greater and more practical value through their Volunteer Corps for the British Army in case of a National Emergency. After the paper had been read here in June it was submitted to Lord Wolseley, then Commander-in-Chief, an old friend and admirer of Doctor Warre's work in the Public School Volunteer Corps. Doctor Warre was appointed shortly afterwards to the Standing Committee on Education at the War Office, where his strong personality made itself still more felt, and where he developed the ideas which he had originally submitted in a very important degree. Later a Committee was formed in 1905 under Lord Esher, which still further developed the proposals, and again, as the lecturer has said, in 1908 in consequence of the formation of the Territorial Army and the difficulty of supplying sufficient officers, this Training Scheme became an urgent question. The O.T.C. proposals therefore under capable and energetic officers soon evolved into a really carefully thought-out and practical organisation, such as we know it to-day.

With regard to the value of the O.T.C., perhaps I may be allowed to add that it was my privilege at the beginning of the Great War to be called back from the Retired List to command a division and a half in the Midlands of the newly raised Kitchener's Armies. I had personal reason to know the difficulty in procuring officers, and I emphatically maintain that without the system of the O.T.C. which produced so large a proportion of the officers, the war could not have been won. It was the system of our Public Schools Volunteer Corps and their evolution into the O.T.C. which produced the extraordinary number of officers so urgently required. No other means existed for this purpose and it is to the O.T.C. system supplemented by O.T.C. of the Inns of Court Volunteers and other

admirable Training Units that we owe the deepest debt of gratitude in providing efficient leaders for our newly formed Regiments.

All of us who have had experience in leading British Troops know that we owe our stupendous success during the late Great War to the characteristics of the British Soldier, which I have already enumerated as the principles laid down by Doctor Warre. It is these characteristics which our Public Schools and our Officers Training Corps develop with such conspicuous success. Who can wonder therefore if we all acclaim the existing Officers Training Corps under Major-General Sir Arthur Lynden-Bell and Colonel Earle as one of the great assets of our modern British Army and bless all those who have helped to create the system.

LIEUT.-GENERAL SIR LAUNCELOTTE GUBBINS : I did not propose to take any part in this debate, but the remarks of the lecturer as regards the physique of the members of the O.T.C. and certain physical defects generally in our Army have brought me to my feet. Let me say first of all how thoroughly I endorse the remarks of the last speaker. Some few years ago, at the end of the eighties, two French gentlemen, Baron de Coubertin and M. Georges de St. Clair, were so impressed with our Public School system that they moved heaven and earth and left no stone unturned in order to improve the physique of the French nation, and it was to the first named gentleman that we owe the institution of the Olympic Games, which he inaugurated with the hope of improving the physique of his race and we all know how they have improved in that respect. They now make a very decent show at Rugby football, at lawn tennis and at golf, and as regards boxing I think at this moment they are supreme.

With regard to our own officers, I, as an ex-Director General, have had a good deal to say with regard to their admission into the Army from the physical point of view, but it must always be borne in mind that it is the combatant branch that lays down the standard required and the medical officers have only to adhere to that standard. I remember one curious instance in which an Artillery Commander in this country reported to his G.O.C.-in-C. after the autumn manoeuvres that the standard of vision of the Artillery Officers was, owing to the introduction of long range guns, below par. This report was passed on and I think as a result the standard was slightly raised. Curiously enough by the irony of fate this officer's own son came up at a later date for examination for the Army and was rejected owing to defective vision; however the young gentleman subsequently received a diplomatic appointment and has probably done very well for himself. A great many candidates were rejected by the Medical Boards, owing to too rigid adherence to the standards laid down, and then Lord Haldane introduced what, I think, was an admirable innovation—an Appeal Board. This consisted of the Director General (*ex officio*) as Chairman, and an eminent physician and an eminent oculist—two of the leading men in those branches of the profession in London. That Board sat periodically, every case was carefully heard, and some 30 per cent. of the appeals were successful: at the same time I would like to add that, knowing the conditions of military service better than my two civilian colleagues, I never hesitated, when a candidate was on the border line, to recommend him to the Secretary of State, and I took the full responsibility for his acceptance, so that if anybody was to be hanged subsequently I was the person, and I am glad to think that so far I have escaped the penalty. Coming to the rank and file, people call us a C.3. nation, but it must be remembered that some 70 per cent. of our people live in towns. I had the advantage, when at the War Office, of visiting practically every dépôt (all arms) in the United Kingdom, and I was much struck with the good physique of the recruits in places like Inverness, Bury

St. Edmunds, or Galway, and some of the out-of-way depôts in purely agricultural districts, but, strange to say, in my experience I found, when I was P.M.O. of the Home District, that the best stamp of recruit I ever met was the London carmen—Carter Paterson's men and that kind of people; they lived in the open air, were always handling heavy packages, and above all were remarkably intelligent. Many commanding officers have told me that the best type of recruit they had at their depôts—(I am thinking of Oxford, Reading, Guildford and such places)—were the London carmen, and that if you could get a regiment composed exclusively of this class it would be the best in the world.

MAJOR-GENERAL SIR JOHN MOORE: I am extremely glad to have had the privilege of listening to so admirable a lecture as Colonel Earle has given us this afternoon. He has indicated to us that the object of an O.T.C. is the supply of officers for the Army. That is quite right, but I wish to say a few words on the value of an O.T.C. in a particular direction. It is primarily a training of the youthful mind, a training in duty to oneself, in discipline to oneself, and also the cultivation of patriotism which is so essential to us as Britishers. A month ago I had a very painful experience at a Meeting of the British Empire Union at the Central Hall, Westminster. That Meeting was upset by a gang of hooligans and absolute Anarchists, who tore to pieces the Union Jack, the flag that we have fought and died for. It was most painful to me. I am sorry to say that this movement, Anarchy, has got into the Universities which furnish us with most of our officers. I have here two copies of a most horrible paper, the name of which I will not mention because to do so would be an advertisement. In one of them there is an article entitled "Sentimental Militarism," in which the statement is made: "We have no wish to quarrel with the two minutes' silence on Armistice Day if people so choose in that way to mourn their dead. What we abhor is the hypocrisy that follows the mourning of dead by ceremonies in glorification of war and militarism." Then it goes on to say: "Could anything be more fatuous than the phraseology on the inscription of the tomb of the Unknown Warrior who it is alleged 'Gave his life for God, for King and Country, for loved ones, home and Empire, for the sacred cause of justice and freedom of the world.' We refuse to believe that one soldier in a thousand was inspired by the thought that he was fighting for the abstraction called God, Whose Son Jesus Christ would most certainly have been a conscientious objector under the circumstances." When you get things like that emanating from a University do not you think it is time that we British people by all means in our power, by the O.T.C., by Boy Scouts and all such movements, should endeavour to defeat this pernicious doctrine that is now flying about the country? I wish particularly this afternoon to allude to that and its bearing on the value of an O.T.C., senior and junior,—probably more particularly the junior because we depend upon young officers to be precept and example to everyone they command. I have had some experience of O.T.C.'s. Some years ago I took up the question of O.T.C.'s, affecting administrative branches of the Army. In my own particular service, the veterinary service, we had two veterinary contingents. I trust that Colonel Earle will not forget the administrative services, and my own Corps in particular. If by any chance I can further the interests of the Corps in which I have been specially interested, I will be very glad to do so. The first veterinary contingent was formed in Ireland in 1912. Ireland, which is being run down so much to-day, was the first country to start a veterinary contingent, and I am glad to say that a lot of the boys in that contingent took part in the war as officers. The second veterinary contingent was formed in Scotland. We have no veterinary contingent at the London College, but it is

hoped that in course of time one will be formed. Then we shall have a whole brigade of veterinary contingents. I speak from personal experience when I say that these veterinary contingents were of great use to us in the war, to myself in particular as the Director of Veterinary Service with the British Expeditionary Force in France.

MAJOR-GENERAL SIR DUDLEY RIDOUT : I am prompted to speak this afternoon because during the summer I have had the privilege of spending a week at one of our great public schools where I had the opportunity of watching most carefully the training of the boys. I spoke to the Headmaster about his O.T.C., which seemed to me, from what I saw of it, to be an extremely good one. He told me he was convinced that the O.T.C. was all for the good of the public schools; in fact he maintained that no public school could be a good public school without a good O.T.C. Certainly in that school the effect of the training has been most marked. I watched all classes on parade; I watched their physical training and their drilling in mass, and I was particularly struck by the fact that, after the lads had been allowed to stand easy and the whistle blew, there was not a sound; every boy remained steady just as if he were a trained soldier. The system of obedience and alertness which goes to make a successful soldier was there being implanted in the boys. Personally I think that the O.T.C. is of extraordinary use in the formation of a boy's character. In talking to the boys I found that there was an enormous amount of healthy rivalry amongst the Houses which was born and bred of the training of the O.T.C. It was a coveted honour to march away with the Colours, perhaps I am giving away now the secret of the name of the school. Anyway, the rivalry there was to be selected to march away with the Colours showed the spirit that was animating the schools. I was very glad to have the opportunity of seeing an O.T.C. after spending 8½ years abroad, because at one time I was lecturer in the Dublin University O.T.C. I then saw the training that was carried out there; and in view of the nature of the training that I saw after the war, during my visit last summer, I am convinced that marked progress has since been made.

COLONEL EARLE, in reply, said : The Chairman tells me that I need only speak about the veterinary question. We are very alive to the importance of all the Administrative Services in the O.T.C. To be honest with you, the Veterinary Department in some of the Universities is not flourishing. It is, I fancy, in these days chiefly a question of finance. It is really an extraordinary thing, but I am told that what these veterinary surgeons really like is a horse. It is very extraordinary, but I am assured that it is so, and it really becomes a question of £ s. d. Still, we are in hopes. We hope in the course of time we shall be able to produce some horses. I think the future is really bright, but we are very hard up at present.

MAJOR-GENERAL SIR JOHN MOORE : May I say a few words in answer to what Colonel Earle has just said? In 1913 the Irish contingent went for their summer practice to the Curragh. General Gough, a personal friend of mine and a very good soldier, gave orders for one troop of the 4th Hussars to be handed over to the contingent of 52 young men. They had the horses for a fortnight. They were put in a certain stable at the Curragh opposite the Veterinary Hospital, so that these young men combined their own legitimate duty of training in the hospital with horse-mastership of the horses that were delivered over to them. The Squadron Commander came to me in fear and trembling about these horses, and I said to him : "Do not say anything until the end of the fortnight." At the end of the fortnight, with those young men grooming, the horses were never in

such order in their lives before, and the Squadron Commander thanked me personally and congratulated me upon the fact that the horses looked so well. There is no difficulty at all in obtaining animals with which to train a veterinary contingent, —not the slightest. Another thing to be borne in mind is that very little expense is incurred. If it is a question of equipment and clothing, there is a large amount of surplus clothing available for a good many years.

THE CHAIRMAN (Major-General Sir A. L. Lynden-Bell, K.C.B., K.C.M.G.) : Ladies and Gentlemen, I am sorry that more people have not been present to listen to this admirable lecture, but the Secretary told me just now that the Journal is the audience. I hope that this excellent lecture will be read by all the members when it appears in the Journal. I am delighted to see present to-day representatives of the Allied Forces. For instance, I notice General Itamy, an old friend of mine who has done much for us in this country; Colonel Capitaneau, the Rumanian Military Attaché, and I must not forget my friend Major Maguire, the Assistant American Military Attaché. I am very glad that they should have been here to listen to the lecture and the remarks that have been made by the various speakers. I am also delighted to see two very distinguished members of the Finance Branch of the War Office here, and I hope the remarks that have been made, particularly by General Moore, will go home to them, so that every help may be rendered not only to the veterinary but other contingents of the O.T.C. I am sure it has been a great delight to all of us to hear General Hutton. It is many years since I saw him, but I had the honour of serving under him once, and I can only say that I heartily agree with all he has said. I am quite sure we all desire to pay our tribute to the officers in the old days who worked up the system which eventually resolved itself into the O.T.C. We know that General Hutton himself did an enormous amount for the O.T.C. when he was in command. General Gubbins' remarks were of great interest to us, and what he said about the London carmen was entirely new to me. I had not heard that before. I am sure that the Recruiting Authorities in the future will try and get as many carmen as possible into the Army. Sir John Moore raised a point about the veterinary contingents of the O.T.C. which has been exercising us a great deal. We have been trying our best to help them, but as Colonel Earle just said, it is a question of the horses. I have made a note of his remarks and I shall certainly bring them to the notice of the Finance Branch. I am afraid that Sir Dudley Ridout revealed the school to which he was referring by the remarks he subsequently made. We all know about it, but it is very refreshing to hear from him his views in regard to the contingent of the O.T.C. which he mentioned. I may say, however, that his remarks apply equally to all the contingents of the O.T.C. They are all in a flourishing condition, and if there are any members of the O.T.C. here I would like to thank them very much for all they have done to help us, to assure them that we fully appreciate what they have done, and I am sure the country will do so later on. Mention has been made of one of the troubles we experienced in dealing with the O.T.C. question at the Universities. We are always asked if an O.T.C. is necessary in view of the possibility of the formation of a League of Nations. I think General Smuts's remarks, quoted by General Earle, answer this question. We are further bound to point out that we are only too delighted to think that no one is going to war again, because there is no one hates fighting more than sailors and soldiers. But we also endeavour to point out that even in the best regulated families there are bound to be accidents, and if accidents do occur in the future, as I hope they will not, I am certain that the O.T.C. will do its duty as magnificently as it has done in the past.

I now desire to propose a most hearty vote of thanks to Colonel Earle for the lecture we have heard, which I would not have missed for anything.

The resolution of thanks was carried by acclamation.

MAJOR-GENERAL SIR P. P. DE B. RADCLIFFE: Ladies and Gentlemen, as I am the only Member of Council present, it is my pleasant privilege to ask you to pass a vote of thanks to the Chairman, Sir A. Lynden-Bell, for presiding over the lecture. As you know he is an extremely busy man, but he has found time to preside here. I think all the public school authorities know, without me telling them, how much they owe to his sympathetic energy and continual help in support of the movement. I ask you to accord to him a very hearty vote of thanks for presiding.

The resolution of thanks was carried by acclamation, and the meeting terminated.



THE INFLUENCE OF TANKS UPON TACTICS.

By LIEUT-COLONEL W. D. CROFT, C.M.G., D.S.O., Scottish Rifles.

On Wednesday, 7th December, 1921.

MAJOR-GENERAL W. H. ANDERSON, C.B., Commandant, Staff College, in the Chair.

THE CHAIRMAN: Ladies and Gentlemen, I hope that Colonel Croft does not require much introduction to the greater part of the audience. Colonel Croft made his reputation in France as Adjutant, as Battalion Commander and as Brigade Commander throughout all the fiercest fighting in that country from 1914 to 1918. At the end of the war, in 1919, he came to the Staff College as one of the hand-picked veterans for our first year's course; after leaving the Staff College he went to the Tank Corps, and he is at the present moment commanding the Tank Battalion at Aldershot, with which he went through the training of the Experimental Brigade last summer. To this great practical and theoretical experience he adds constant and constructive thought, as I know from personal experience, on tactical questions, especially those connected with mechanical warfare. These qualities, I know, will ensure for us a lecture full of interest for all soldiers who are anxious for guidance in the tactical problems of the future.

With that introduction, I will ask Colonel Croft to deliver his lecture.

LECTURE.

LADIES AND GENTLEMEN: I should like to point out that I have had no experience whatsoever in the field with tanks, and that I have never seen a tank in action. I am merely an infantryman, and the point of view that I shall put forward is that of an infantryman pure and simple. I am not a tank expert.

"Changes in tactics have always followed changes in weapons, but the intervals between such changes have been unduly long." The best illustration of Mahan's maxim is to be found in the effect upon tactics produced by the machine gun. Fifty years ago the machine gun was used, though rarely with effect, in the Franco-Prussian war, and it is only since the introduction of the tank that it has been allowed to effect even modified changes in forty-year old tactics.

In past wars, either one side or the other has entered upon hostilities with some defect in tactics, organisation or equipment, such lack of foresight having to be made good either during or immediately on the conclusion of the war. There has always been rather a tendency to

look back and take the latest efforts in war as a model, and build up on them. Now that so much store is set by the Staffs of armies, it will be part of their duty—and that not the least important part—to look ahead, to anticipate; for lack of foresight in the future will be the outward and visible sign of bad staff work in peace. Even now there is a tendency to base our tactics on what has been done in the last forty years. As a matter of fact, I think we as a race have every reason to be proud of ourselves as being the pioneers of new changes in tactics to suit new weapons. At Crecy our bowmen not only wrested the palm of battle supremacy from the armour-clad knight, which he had held undisputed for centuries and became the terror of Europe, but from Crecy dates the supremacy of infantry on the battlefield, a supremacy which they have held until now. In the Peninsular War Wellington's linear tactics enabled him to defeat the French time and again, and the French could never apply the correct answer. In a lesser degree, the skirmishing of the Light Division was a model for all time. In 1914 the Germans complained bitterly that every British soldier was armed with a machine gun, a high compliment to our pre-war training, and in 1916 we fathered the tank. I think, therefore, we have nothing very much to reproach ourselves with as regards changing our tactics to suit the changes in weapons, but that is no excuse for being stagnant.

With regard to the question of vulnerability, it has been estimated that 80 per cent. of infantry casualties in the Great War were caused by machine-gun fire and shell splinters. The tank is immune from both. With regard to gas, infantry obliged to move through a gas cloud suffered severely from the after effects, owing to their exertions, whereas the crew of a tank is carried through the gas cloud without the slightest exertion.

As regards the anti's, there are a great many people engaged at the present time on the subject of how to "do in" the light tank or the new tank. Outside witchcraft, there are two things that are supposed to deal with a tank effectively, the first being anti-tank guns and the second mines. The anti-tank gun was first used in the autumn of 1918. In September, 1918, the whole of the most powerful artillery which the world had ever seen was concentrated on knocking out the tanks, and yet over and over again the old slow "busses," at five miles an hour, extinguished the gun, often by getting round it and sometimes by direct approach. The tank won. Over and over again cases occurred not only of tanks walking round and out-maneuvring the guns, taking advantage of folds in the ground and so on, but actually walking up to the gun and treading it in. At the end of the war the tank was practically having a walk-over, but, of course, it had experienced very heavy casualties in the meantime. So had the infantry, but the tank won and came through. If you are shooting partridges, a covey of driven partridges comes over the guns at about thirty miles an hour. The average man has done well if he drops one bird in three shots—if he is lucky. Put a rifle in the hands of the man and how many would

he hit? Now put a gun in the hands of the anti-tank gunner, give him ideal conditions like Salisbury Plain (but in that case the tank must have ideal conditions, too, and, furthermore, remember the tanks will be coming at him at a maximum of twenty-five miles an hour). The tank is not going straight at the butt; it is zig-zagging and, unlike the partridge, the tank is hitting back. The gunner will be like the man with the rifle shooting partridges, a complete novice at the game, for he cannot possibly have such a target in peace. What are his chances of hitting the tank? In England, for instance, close country is normal, and it is exceptional to get a clear view for more than three hundred yards along the flat. A tank at maximum rates will get over that in less than half a minute. Furthermore, tanks in close country would probably work in pairs, that is to say, one tank would go forward covered by its mate in a good fire position, ready to shoot at the slightest flutter of the anti-tank gun.

With regard to the answer, the only answer to firearms was firearms. The German General Staff was answered, not by assassination, but by the formation of yet another General Staff. The answer to a machine gun was a machine gun firing from a tank, and the answer to a tank is another tank. It may be argued that, if the anti-tank gunner cannot hit the tank, neither can another tank. That is true; and it is quite possible that they may have to rub noses before they do hit each other, but they will hit each other eventually.

In the past, position warfare has been normal ever since the spade has played such an important part in shielding infantry. A war of movement, on the other hand, has been abnormal. Even as far back as the Peninsular War, Wellington sought shelter behind the lines of Torres Vedras, and if Massena, when he confronted him, had possessed a supply service, he would have sat down, dug himself in, made a plan and dealt with Wellington once and for all. It was the soldierly thing to do. He could not do it, because his army lived on the country; the country was swept as bare as a board, and the army had to go back. Then Wellington hunted the rabble.

In the winter preceding the Wilderness campaign of 1863, the Federals and Confederates had finally come to grips across that vast continent. Both armies were entrenched—the Confederates, like the British in 1914-15 and again in 1917-18, were all in the line, and the Federals out training behind the line, which they held very lightly, just as the Germans did in 1917-18. The Wilderness campaign itself was a series of battles for inches, not acres; a war of attrition, where both the opposing infantries were so evenly matched that neither side could get a decision and the infantry on both sides eventually became exhausted. "Now we will rest the men and use a spade for their protection until a new vein can be struck," said Grant to one of his Generals at the end of severe but indecisive fighting. There are numerous other incidents that might be quoted. Plevna, the Russo-Japanese War, the Turks at Chatalja, and so on, are all instances of position warfare being normal

where two sides are at all evenly matched; and a war of movement, after the opening stages of the campaign, where the two forces are feeling for each other, only occurs when one side, having broken through, marches to ultimate victory or is checked again owing to the exhaustion of its infantry. Has the tank changed that? I maintain that it has, because, since the taking of the Gird trench in 1916, when 270 Germans surrendered to a single tank, the infantry have lost their supremacy on the battlefield. The queen of the battlefield is now a tank, which, like the queen at chess, can move pretty well when and where she likes.

I have to tread on rather delicate ground when I come to the subject of cavalry and tanks. I think it is safe to say that against machine guns a cavalryman is rather like a young rook in April. He cannot get cover like the infantry; he has to charge or go back. If he is up against a tank, he is even worse off than the infantry, or at least as badly off. If we go on with these forty-year old tactics of ours, the same system (mind you, I am not criticising the system, I am suggesting a change), it may well happen that, in the next war, we shall send out a Cavalry Division on an independent mission, and as, with the present system of tactics, we propose to put a battalion of tanks to an Infantry Division, we shall put a battalion of tanks to a Cavalry Division too. If we are confronted by a nation which has decided to cast the horse, that is to say, to go the whole hog and mechanise its army, it may well happen that that Cavalry Division will be confronted with a brigade of tanks. The cavalryman cannot fight these tanks any more than the infantry can, and he must retire gracefully through the tank battalion and watch the latter, backed by the horse artillery, take on the hostile tanks. The cavalry are, in fact, like the infantry, no longer mistress in their own house. The cavalryman has become a jackal to the tiger, the tank. In that minor rôle he is invaluable—the most rabid tank enthusiast will admit that. The cavalryman is almost essential to him in a minor rôle, but, in these days of bankruptcy, can we afford to have those two things side by side—horses and the men behind the horses and the tank or machinery and the man behind the machinery, and all that that implies? If we were rich there is no question what we would have, but unfortunately we are poor.

With regard to the infantry battalion, at the present time the infantry battalion is the most unwieldy contraption in the attack since the days of Gustavus Adolphus, but its hitting power on the defensive is far greater than ever before—32 Lewis guns with 225 men behind them, 8 machine guns with 100 men behind them, and 2 Stokes mortars with 20 men behind them. The hitting power has never been so enormous, when it is acting on the defensive. But in the attack it is unwieldy, and it is impossible to get anything like half the hitting value out of it. The origin of this enormous fire power is interesting. You will remember that in 1914 the Army on the defensive sent home the cry for machine guns, and that cry came home to an Army that was preparing for the offensive. When the new Armies came out, the infantry

had more fire-power than any pre-war battalion, though the numbers of Lewis guns were nothing like so many as at present. This great accession of fire-power was not a great success on the Somme, and it was put down to lack of training. But these weapons were increased until Battalion Commanders were called upon to deal with the present numbers, though in a slightly different organisation in so far as regarded the machine guns. As a Battalion Commander, I found it impossible to get real value out of these things in an attack, because of their unsuitability, though at the time I put it down to sheer incompetence. This unsuitability was never exposed, owing to the efficiency of the creeping barrage. I will endeavour to explain my difficulties. In the first place, I was forced to attack an enemy who knew his business sufficiently well not to make me a present of convenient tactical features such as are to be found at Aldershot, the home of the slogan "Fire and Movement." Consequently, if I used my machine guns, they must fire directly overhead without any advantage of command. Theoretically it is safe to do this, but in practice it is not. Anyhow, it was proved to our satisfaction that it was not safe, owing to the impossibility of entirely eliminating the human element in the excitement of battle. As regards the Lewis guns, the most advanced usually followed the first wave. Determined infantry when once launched are only stopped by one thing—machine-gun fire, which has often sent a battalion to ground. Picture to yourselves the position of the Lewis gunner. He, like the others, had dived into the nearest shell hole, and when he emerged in order to function he was, as often as not, under the necessity of cleaning his gun as best he could with a muddy hand to get it to function at all. In all probability the men carrying the drums were in another shell hole, and he found himself short of ammunition; when he was ready to open fire, he might run the risk of shooting into the backs of his comrades in front of him, or else he could not see his target. There was no question of his utility when once the position was taken, but I found that he was comparatively useless in helping to reach the objective. We were sometimes sent back behind the lines to schools in order to watch platoon demonstrations, but that did not touch our difficulties because the demonstrations were not practical. Platoons in real attacks do not perform little shows on their own; it was combined team work that we wanted to see, and eventually we saw it. The German gave us the best possible demonstration in 1918. As in most things which that excellent soldier did, he took the big view. He had found, like ourselves, that machine guns and automatic rifles were incomparable in defence; his problem was to get value from them in the attack. He milked his infantry dry of their best men and made his machine gunners a *corps d'élite*, the infantry being merely cannon fodder and line holders to come along and hold ground won. Then he made his machine gunners the spear-head of his army. He gambled on getting his machine guns through the trench system under cover of smoke and not until they were through the hostile infantry did

they function at all—to the flanks or in rear of their hostile infantry. The gamble came off in the south, but in the north, where the machine gunners were confronted with a more stabilised and strongly held system, they met with a costly failure. When confronted by our men they never had a chance; they were sent to ground like our Lewis gunners in the attack.

Had those machine gunners been inside a steel box there might have been a different end to the war. Put all these things in a steel box, and we get the machine gunner firing his gun as it was fired on the test bench. His spares are handy and clean to rectify failures; his ammunition is under his hand and clean; he has command, so that he can see his enemy. Fire and movement no longer applies to the unrealities of manœuvres, but is a reality in war.

It has been my good fortune to command a company of tanks; it has been my ill fortune to break my heart trying to get some value out of this lump of unwieldiness in the attack. To me, therefore, the ideal battalion in the attack in this transition stage is 400 riflemen suitably equipped and suitably clad, and a company of tanks. It may be argued that machine guns will be wanted outside tanks for line holding. There is no reason why those machine guns should not be brought up afterwards in tractors and manned by some of the riflemen. But in the event of the counter-attack being delivered by tanks, we shall want our company of tanks to meet it.

The human factor, both in war and peace, must be considered. A tank crew is spared most of the horrors of the battlefield. They do not see or hear their stricken comrades; they do not see or hear the bursting shells, than which there is nothing more nerve-racking. They are under cover, and most of us remember how grateful we were to cower under a flimsy bit of corrugated iron and how loth we were to leave it during a bombardment; even a bell tent gave moral support. The crew are taken along just as they go about their daily work—until such time as they get a direct hit.

In peace we train our infantry now to be unnatural, to do things which they will never do in civil life. Forty years ago it was natural to do long, slow work on a pair of human legs, and to carry weights. Now everyone goes to work on a bicycle or 'bus, by train or tube—anything rather than walk. Legs are chiefly used for short, fast work—games. The British soldier is incomparable; he is so amenable to discipline that he marches long distances and carries a heavy load without anything more than a grouse or two. He is the most unimaginative person in the world, yet he does his best to exercise his limited imagination when training, but it bores him immensely. With a tank battalion it is quite the reverse. It was my lot to take over a tank company with just an average crowd of recruits. From the first it was obvious that the men meant business; you could not keep them away from the tank. The machines were as raw as the men, and working out of hours was normal, but they never thought of grousing. Last training season, those among

you who saw our men standing idle by a tank may possibly not have realised that those men had already done a day's work trying to get the tanks ready. They have far more work to do than infantry, and they undertake it willingly, because it is something definite and because they take a very big pride in their ship. The youth of the nation are, at the present moment, machinery-mad. The British soldier turned mechanic—what a combination! You must remember that I am not talking of specialists; they are exactly the same men as you get for the Army generally.

The question therefore arises: Are we to superimpose tanks on our forty-year old tactics, or are we to revise our tactics to suit the tank? Take the case of the Advance Guard to a force moving at the rate of $2\frac{1}{2}$ miles an hour, and doing 15 miles a day. It is admitted that some tanks must go with the Advance Guard; but, if there is only one battalion of tanks to a division, there will be few tanks to an Advance Guard. Where are they to go? They cannot go in front, as they are too few, and therefore too precious. If they follow along in rear of the mainguard the pace will be highly injurious to the high-powered internal combustion engine; they must therefore take advantage of the shunting ground between the tail of the mainguard and the head of the main body. They would have to move so as just to clear the head of the main body; on catching up with the tail of the mainguard they would halt again, and so on. Occasions might arise when they could dodge the starting point and move off the road, but tanks, like others, do not like larking across country when hounds are not running! But, if they did so, their wireless telephone equipment would enable them to get all the news of the front from the front by means of the air, and so they might anticipate orders accordingly. The situation of the tanks with the main body is even more unenviable. They would have to go in front of the main body, and march with the ranks of the Advance Guard as a unit, or they would be forced to march right behind everything on the road and make progress in the same manner as the tanks of the Advance Guard. Now let us suppose that we, having made no drastic revision of our tactics, find ourselves at war with a nation which has abandoned the horse owing to supply difficulties, and has given up its trust in the human leg—which has, in fact, gone the whole hog and mechanised its army. It might happen that an ambush could be laid for the Noah's Ark; there would be no squealing or neighing, and the efficiency of the camouflage would be tested by its own air forces. At a given signal from the air, the hostile tanks are slipped; in half a minute they are into and over the Advance Guard. They might encounter some resistance from the few tanks, but Heaven prospers the big battalions, and in a few minutes they are into and over the main body before it has had time to think of deployment, and then they are at liberty to deal with the tanks of the main body at their leisure.

With regard to air control, much has been said recently about the

advisability of putting the tank commander in the air when tanks are operating independently. This would mean that the tank commander must have trained air sense and vision, be trained as an aerial machine gunner, be trained as a pilot (in order to drive in an emergency); in short, be a fully trained airman. Again, if his escort were driven off he might be called upon to fight for his life at a time when his tanks below were hanging on his words—divided control in its worst possible form! Again, visibility may be so bad as to prevent him seeing anything. It appears, then, that normally his best position would be on the ground, trusting to his airman to tell him all that he wants to know. He can hardly find time to become a trained airman and a tank commander as well.

The co-operation between the air and the tanks must be of the closest description. The greatest danger the tanks will have to fear in the future is from something which can outsail them and bomb them at leisure. An air escort will be essential, and this liability to bombing will control the size of the machines.

With regard to staff rides, it is outside the scope of this lecture to go into details concerning expense; that is a matter which can easily be worked out by the aid of cost accounting; but the most important part of revising tactics, that which is concerned with thinking things out to their logical conclusion, costs little or nothing. Staff rides conducted by those who are thoroughly grounded in our present system of tactics would undoubtedly throw important light on the necessity of changing tactics to suit the new and formidable weapon which has wrested the palm of battle supremacy from the infantry from the day on which an airman dropped the message to the effect that: "A tank is walking up the High Street of Flers with half the British Army cheering behind it."

DISCUSSION.

GENERAL LORD HORNE: General Anderson and Gentlemen, I came here this afternoon to listen and to learn, and it is only at my old staff officer's urgent request that I rise to open the discussion. I think the salient point of this very excellent lecture is the necessity for research. That has been my cry since the war ended, especially in connection with a subject kindred to tanks, that of machine guns. It is merely a platitude to say that we must all of us recognise that we are in the dark and that research is the first necessity. We must not cease to examine into the best means of employing the new weapons which we developed during the war. As regards the influence of tanks upon modern tactics, I was hoping that Colonel Croft would have been able to tell us a little more of what he thought should be the role to be adopted by the tanks. He has argued very excellently the possibilities of what might be accomplished and what might not be accomplished, but he, like myself, is still groping in the dark and unable to say what the best methods would be of accomplishing the results that we desire to attain. I pricked up my ears when I heard the closing sentence of the lecture, in which it was suggested that the man with the rifle has become an auxiliary to the tank. I shall want convincing before I yield to that claim, because I think that proposition has not been substantiated by the experience of the war and that the man with the

rifle still remains the unit on which we have to base the employment of the different arms. The lecturer gave as an illustration the tank which went up the street of Flers on the 15th September 1916. That was the first tank operation. I know that General Anderson will bear me out that in trying that experiment, we, of the XV Corps Headquarters, noticed a tendency on the part of tank officers to fight the battle by themselves. The most successful tank attack took place on the front of the 15th Corps, where three tanks got right through. On that occasion both the tank that went up the streets of Flers and the other two that went round got on well. I am sure if they had had a better idea of co-operation, if they had stopped and organised and carried the infantry with them, they would not be standing where they are now in front of the line at Geudecourt. They went on alone; they accomplished a splendid and most gallant work, but they were without support and there they remained. When we received that historical message—"A tank is walking up the streets of Flers followed by"—not "half the British Army cheering behind it"—I want to correct that, because the message was—"followed by a disorderly rabble"—I said: "I wish they would get themselves into some order, else they will very soon be back," and they would have been back but for the very energetic action of a Brigade Major.

Gentlemen, I will now urge someone who has had a more intimate acquaintance with the technicalities of the tank, and also some experience of its employment and the experiments in connection with its employment, to speak.

COLONEL J. F. C. FULLER, D.S.O.: Mr. Chairman, Ladies and Gentlemen, I had hoped that somebody not so intimately connected with tanks as myself would have got up and said a few words, but as nobody else has risen I will continue this discussion. I intend to speak on the question which Lord Horne has just spoken about, namely, the tactical side of this lecture. What changes are tanks going to effect in our future tactics? The problem is, I consider, a simple one if we bear in mind the factors which go to build up tactics. Suppose two men are going to fight, what have they got to do? They have to do three things; first, attempt to hit each other; secondly, prevent themselves from being hit; and thirdly, move; in other words, they must possess offensive power, protective power and mobility. These are the three key problems connected with tactics. Let us compare the tank with the infantryman, and especially the offensive power of the infantryman with that of the tank. The infantryman's offensive power is limited by his carrying power to a rifle and a hundred rounds. His direct protective power is nil. His moving power perhaps 15 miles a day under very good circumstances; under war conditions it is much more like 3 or 4 miles a day. Now take the tank; its offensive and protective powers are enormous when compared to those of infantry, and its moving power, even in 1916, was considerable. When these simple facts are accepted, there can be little doubt what tank tactics will be like. Let us visualise what will happen when tanks meet infantry, cavalry and guns. Let us ask ourselves these questions; What are the infantry going to do? What are cavalry going to do? What are guns going to do? When tank meets tank, what part can the infantry take in the tank battle? I do not know. If anybody can enlighten me as to this, I shall be only too delighted to hear the solution. What part will the cavalry play? They perhaps can scatter land mines about on the ground, but surely it is better to do this from the air or from a tank. What I think cavalry will do is they will save themselves; they will be the only arm which will save itself; they will gallop off the battlefield. What will the gunners do? They will knock out a certain number of tanks, but it must be remembered that the guns are in the open. If a gun is to be effective

in a tank battle it must get inside a tank. In 1916, when Colonel Swinton gave us the tank and saved the British Army, even then, as Colonel Croft has told us, the tank accomplished something, and the fact that it was able to accomplish something, considering it was an untested machine, was one of the most remarkable episodes not only in military history but in the history of engineering. I will examine now what occurred at a later period in the war at Cambrai, in 1917, and again at Amiens, in 1918. In 1916 on the first day of the battle of the Somme 40,000 British soldiers were killed and wounded. At Cambrai, in 1917, we suffered 6,000 casualties. At Amiens, in 1918, there were 40 officer casualties and 937 casualties amongst other ranks, a total of less than 1,000. These facts are tactically so conclusive that I cannot imagine how anybody can doubt that a man moved in a machine protected by armour, a man supplied with large quantities of ammunition, can possibly be inferior to the man who has to fight on his feet. As an infantryman, I am certain that the infantryman's future place is in a tank. I believe that the cavalryman's place is in a tank but of a different type, and that the artilleryman's place is in a tank, again of a different type. Consider the gunner of to-day: he has to fire from behind an infantry screen. If he is sent out on his own he has to be provided with an escort. Why? Because he cannot protect himself locally. Put him in a steel box and he obtains local protection. In connection with this lecture there are two other points which simultaneously arise, protection of infantry from the air and protection from gas. Let us visualise a Divisional column such as seen in 1914, marching along a road in a war of a few years hence. Let us watch it attacked by 20 or 30 low flying armoured aeroplanes, equipped with 20 machine guns apiece, what will happen? The answer is to be found in the last number of the "Army Quarterly" which contains an interesting account of what happened to one of the Austrian Armies when attacked by aeroplanes during its retirement in Italy. The writer says that, having gone over the ground after the battle, he came to the conclusion that warfare of this nature should be prohibited, it was too horrible. How will the infantryman protect himself against low flying aeroplanes? A tank can; an infantryman cannot. In the future how will the infantryman protect himself against unknown gases? I do not know, unless he wears a diver's suit with yards of piping trailing behind him. But he can protect himself in a tank, and though not the tank of to-day, the idea is perfectly feasible. There is only one thing more I want to mention, because I think it will clear up a misconception as regards the tank. The tank is not a weapon; it is the means of moving weapons. The tank offers to the infantryman a comfortable means of movement; it does away with slogging along the road on foot; and very much the same applies to the cavalryman and the gunner. In my opinion, as in civil life the lorry has all but replaced the horse as a means of movement, so in armies will the horses be replaced by the tank. If we go outside into Whitehall and count the number of horse vehicles and motor vehicles we shall find many petrol-driven vehicles but very few horse vehicles, and from the point of view of military movement I am convinced that in the future much the same thing will happen.

CAPTAIN F. E. HOTBLACK: There is only one point I should like to make on a question which has not been clearly explained, namely, the enormous difference in tanks between 1916 and 1918. One very often meets people who base their opinion of the tank on 1916. To my mind, you cannot say too much of the failures of 1916, as far as the tanks were concerned, and the failures also, except in a very few cases, in 1917. It is not until you come to the Mark V tank at the end of 1918—the tank which is now obsolete—that the history of the efficient

tank begins. The tank was then just beginning to be a real weapon, or to be a real method of transportation, whichever you like to call it. The tanks did not come into their own in any sense until the Battle of Amiens on 8th August 1918. The curious part about that battle, from the point of view of the people now in England, was that it was so very largely fought by troops which had not been hammered during the recent German offensive—that is to say, by Canadians and Australians, and it is for that reason, very largely, that a tremendous number of English officers do not quite realise what a great change had taken place in the tank since those very gallant, but very often unavailing, efforts in 1916. It was not a question of starting off twenty tanks, as it often was at the third Battle of Ypres, and being quite satisfied if two out of twenty got there. Instead of, as at Cambrai, getting large numbers knocked out by one gun the position was very much changed. I know personally of a great many cases in battle where the tank, with its increased speed—it was only five miles an hour then—"did down" the gun. There was also the very amazing case of the armoured cars, which slipped through and got among the German transport, and which, on their way to divisional headquarters, were beckoned and shown which way to go by the German policemen on point duty. They arrived, you may remember, actually at divisional headquarters. That is not a fairy tale, because the German G.H.Q. report of the battle, dated 15th August, I think, referred to the fact. It mentioned that tanks and armoured cars had got through to the divisional headquarters and the batteries before any defence could be made.

I quote that because I think the tendency very often is to fix on some incident of 1916 and base opinions on the tank as it existed then. Obviously, a great change was made between 1916 and 1918, so that it is not wrong to expect that even greater improvements will be made in the future.

LIEUT.-COLONEL W. E. CLARK: I should not like the mounted troops which I feel I represent to go by default in a discussion of this kind. I have read books on the subject of tanks; I have read American reports as to them; but never until this afternoon have I heard or read what I have thought right away through is the correct definition, the one just given by Colonel Fuller. I could shake him warmly by the hand and say delightedly that at last I have heard the truth stated, which is that we have got mechanical transport for every weapon in the field. A haze has been hanging about everything that has been written and everything that has been argued up to date as to whether the tank is a weapon or really represents mechanical transport. They are two utterly different things. I saw the tank in 1916 in its first attack at close quarters on the Somme; I saw the tank at Cambrai and I saw the tank on the 8th August 1918. In 1916 the tank was in its infancy but it certainly got across the wire and obstacles. In 1917 it pushed through the wire and got clean away, and it did very much better than most of us anticipated it would do. There the mounted troops had difficulties. The cavalry could not get close up, but I do not think that this failure gave any light on the question of tanks *v.* cavalry. In August 1918, there is not the least doubt to my mind, that had the tanks worked with the cavalry or the cavalry worked with the tanks, whichever way you choose to put it, great things could have been achieved. As it was, the pursuit miserably fizzled out to nothing. I was close enough to know what occurred in the two disconnected attacks. There was great gallantry and dash displayed on the part of junior officers of the Tank Corps and certainly on the part of one officer in command of a cavalry regiment; but if the attacks had been combined the results would have been far greater. We have not yet got a satisfactory artillery in tank form. There are many

technical things connected with artillery which have to be considered, but there is one thing I am perfectly certain of, and that is that a small travelling gun on a big conveyance is not going to knock out mobile artillery which is mobile. You must remember that guns lost their mobility in the war about November 1914; they, properly speaking, never moved again on either side. That fact is almost completely forgotten. As far as I am concerned, I am of the opinion—and I believe other officers in my regiment, to whom I have spoken on the subject, think the same—that mechanical transport, as compared with a new trench weapon which wants to fight on its own, is the solution of the problem troubling us all.

LIEUT.-COLONEL W. D. CROFT, C.M.G., D.S.O., in reply said: Lord Horne criticised my failure to go into details of what the tactics of the tanks were going to be. I think one could lecture for several afternoons without a break on that subject and then not really begin it. It is rather difficult to visualise the future tactics of modern tanks, because the type that we shall probably have in the near future is not quite completed yet; the experiments are not finished, so that naturally we have not had a chance of trying the tank out practically. Also there is the question of expense to be borne in mind. Things will go very slowly for the next few years, but thinking costs nothing. We can all do a tremendous lot of thinking about tank tactics in the future. We can exercise our imagination on staff rides. People who are thoroughly *au fait* with the present system of tactics and no one else should exercise their imaginations, and I think the result would be very satisfactory. This is part of the winter training of the Second Division at Aldershot, and I look forward to it as far and away the most interesting thing in that sort of line that it has ever been my good fortune to take part in. Colonel Fuller mentioned the question of mines. My time was so limited that I had to cut out any remarks that I wished to make about mines. Some people imagine that you can put down a mine here and a mine there and that the tank will go to it like hounds to poison. I have had to put down mines and it took me many weeks and much labour and many mines to lay even a moderately sized minefield. Now even in the last war, in which we were buzzing off about 12,000 tons of ammunition a day—I do not know how many truck loads that works out at—all the ammunition was earmarked. In the next war it will not be possible to have quite such a big affair and the truckloads will be still more limited. Which will get priority on the truckload—shells or mines? As regards bombing, Colonel Fuller mentioned that bombing and machine gunning from the air might be a very serious business in the future. I think that bombers are rather going to control the size of our machines. The bigger the tank the easier the target. I think it is better to have them fast and handy than to have them the size that some people talk about—tank battleships. I cannot see it for many reasons.

THE CHAIRMAN (Major-General W. H. Anderson, C.B.): Ladies and Gentlemen, We are very much indebted to Colonel Croft for his lecture. If I may say so to him, as an old friend, I think perhaps the point that has come out most clearly has been the one that has been brought forward by Colonel Fuller. We have now got down to what is, I think, the bedrock of our difficulties as regards tanks. We do not know what we mean when we use the word "tank." We do not know whether we mean a tank as a weapon, which is the way we have generally looked at it, or whether we mean it as a means of transport or whether we mean a combination of the two—a weapon and at the same time a means of transport for weapons and for men. That point, I think, has been cleared up,

and that means we have made a very great advance, because in our future thought we shall be able carefully to differentiate what we mean when we speak either for or against the tank.

That brings me to another point--that many of us are ranging ourselves either for or against the tank, which seems to me to be a very great mistake, because the tank has undoubtedly come to help the army, and if any part of the army takes up an antagonistic view to the tank, while the other takes up a purely partisan view, instead of obtaining progress, only bickering will result.

That brings me to the further point--that we have to consider all these questions from two main points of view, that of the present and that of the future. The practical man, leading troops, will of course want to know how to employ the tanks that he sees actually on the ground at the moment. The higher leaders and the Staff, who are thinking of the future, want to consider the tank not only from that point of view but from the equally important aspect of what we shall get in the future. We are rather apt to confuse those two different points of view. Generally, I think we can say that the advance of the tank will be governed more or less by the same conditions as have occurred in the case of the Navy, namely, the contest between guns as against armour and speed.

If we look into the far future, it seems to me quite easy to visualise the possibility of the gradual increase and improvement of armoured aeroplanes until they in fact become flying tanks, capable of landing in their own length and of transporting guns, gas or men to selected positions. But that aspect is, I think, too far away for most of us to realise at the present moment. What I think we have to bear in mind is that we must advance by evolution and not by revolution, and that at any particular moment of peace any particular weapon such as the tank must be in a great many stages, according to the thought which is directed to it by various people.

It seems to me that we have something like seven stages to consider. First of all there is the farthest ahead, which embraces the scientific aspect and the scientific possibilities of any weapon such as this. Secondly, coming somewhat behind that, we get the experimental designs, which are ahead of production but which are still behind the scientific aspect, and which are really the designs of the future. Thirdly, coming a little behind that, we have the thought of experts and enthusiasts, which is far ahead of the thought in the nation or in the army in regard to any particular weapon. Those experts and enthusiasts will always be pressing for advance from the weapons which they have at their hand towards the experimental designs which are farther ahead. Fourthly, some little way behind that, we get forward thought in the army which is backing up the expert and the enthusiast, but which is generally somewhat behind them. Fifthly, behind that again, we shall always, I think, find the higher military authorities, who, by reason of the many other claims upon their attention, cannot be enthusiasts on any particular subject, accepting, or possibly rejecting, the forward thought in the army. In any case, by reason of the many other and conflicting claims which they have to consider, they will act as a brake on that thought. Sixthly, behind the views of the military authorities come the views of the financial authorities and the question of the amount of money that is available for military expenditure. That will act as a brake on the military authorities, because the amount of money available is far behind the desires of the enthusiasts and of the forward thought section in the army. Seventhly, the actual army, the fighting soldier, does not even see that. He only sees that part of the provision which is allowed for by the financial authorities which has actually reached the fighting troops, and that must be far behind the scientific thought on the subject, far behind Colonel

Fuller's, far behind those who are in the van of thought as regards any weapon. Even then, with those weapons that do reach the army, we have got to train not only the enthusiasts but the whole bulk of the Staff, commanders and troops in the army, in order that they may understand the actual weapon which has reached their hands. The state of training of the army, therefore, will very likely be lagging a little and sometimes much behind the actual potentialities of the weapon which is in their hands, which, in itself, is far behind the thought of the scientist and enthusiast, and even of the military authorities who are trying to push the matter on. We must, therefore, even in the most favourable circumstances, always start a campaign a long way behind the scientific possibilities of our new weapons.

Now, are the circumstances likely to be favourable to us, as soldiers, in the course of the next few years? Looking at the immediate future, there are many things which are against us. First of all, there is undoubtedly the present financial stringency, which is such that the nation will not spend money now on new weapons or on any improvements, on a large scale, of the weapons we possess. In the second place, we have to bear in mind the imminent reduction in naval armaments as a result of the Washington Conference. That does not give us, from the point of view of the soldier, much hope of the nation starting another competition in fresh forms of armament such as the armoured tank and the gun, similar to the one which we have seen running its course since the introduction of ironclads forty or fifty years ago. Then we are up against another brake, namely, that war against a civilised enemy is unlikely for some few years to come, and any campaigns which we may have to conduct will be against either uncivilised or partly civilised nations, and against such an enemy the weapons which we have in our hands will probably be sufficient to provide success, and will therefore probably turn the nation from the necessity of looking farther ahead for the provision of weapons which may be well within the bounds of possibility of design and the production of which is only a question of time.

All those factors are against progress being made, and that, I think, makes it all the more necessary to look ahead of the practical aspect of the moment and to consider the time when, in the future, British soldiers may have to use their weapons against a civilised enemy. We must always remember, so far as the tank is concerned, that we have always been more or less in the position of the Southerners with the Merrimac in York River against the wooden ships of the Union in 1862. Although we have seen the British tanks victorious, we have never yet seen a real contest of tank versus tank; therefore the fighting experts are drawing on faulty experience, because so far we have not seen the tank against its own best enemy, the tank itself.

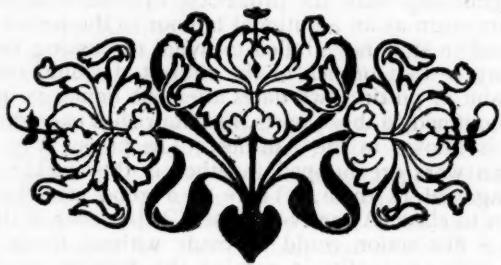
I should like, in conclusion, to say one or two words, from the point of view of training, on what I have seen at Aldershot, and also the purely theoretical training given at the Staff College. There is undoubtedly a tendency to look at the tank as a great asset on one side, as against an enemy without them on the other side. The outstanding lesson of the tank at Aldershot last year was undoubtedly the helplessness of infantry without tanks of their own, or anti-tank weapons of their own, when faced by tanks. It is not possible to ask infantry without tanks to face tanks. What we have always to consider however is the question of tank versus tank.

I now ask you, ladies and gentlemen, to pass a very hearty vote of thanks to Colonel Croft for giving us a lecture which has not only been full of thought and interest but which has provoked a discussion of very great value.

The resolution of thanks was then put and carried by acclamation.

AIR COMMODORE BROOKE-POPHAM: Ladies and Gentlemen, It affords me much pleasure to propose a hearty vote of thanks to General Anderson for taking the chair this afternoon. We owe him our gratitude not only for his persuasive art, which he has so successfully used in inducing unwilling speakers to come forward, but also for giving us a very admirable summary of the discussion and his own thoughts on the matter.

The resolution of thanks was carried by acclamation, and the meeting terminated.



BATTLE HONOURS OF THE BRITISH ARMY AND THEIR ANOMALIES.

By R. W. KNOLLYS.

"Let us now praise famous men and our fathers that begat us."

PART II.

IN dealing generally with the propriety, or otherwise, of adding the name of a campaign as an additional honour to the names of the affairs which occurred in it, I have failed to avoid discussing certain actions. Before passing to that branch of the subject, I would remark that the pernicious habit of putting two dates after one name, as in Egypt 1882, 1884, is not confined to those parts, but flourishes exceedingly in South Africa, and is known in the Antilles. The messy way in which the South African wars are lumped together is thoroughly unfair to the regiments engaged in them. There is a good case for transferring some of them to class (A) or even class (C), but even if they all remain in class (B) a distinction could be made without much effort by the display of a little originality in naming the districts in which the wars took place.

I have already mentioned, somewhat prematurely, unrecorded actions in Germany, Africa, and Eastern Spain. Next to Ferdinand of Brunswick's, I think Marlborough's campaigns must be the most inadequately recorded. Four honours is not much for eight years, and, besides a large number of successful sieges, the battle of Wynendael, hitherto unaccountably neglected, might be awarded as an earnest of further honours to follow. In contrast to this, the Peninsular, with its twenty-four honours, might be deemed glutted, yet even there are some episodes which might be rescued from oblivion.

These twenty-four honours may be divided as follows:—

Two ("Roleia" and "Vimiera") belong to Wellesley's 1808 Army.

Two ("Sahagun" and "Corunna") belong to Moore's Army.

Two ("Barrosa" and "Tarifa") refer to the operations of a

quasi-independent force.

Four ("Albuhera," "Arroyo dos Molinos," "Almaraz," and "San Sebastian") refer to the operations of detached fractions of Wellington's 1809-14 Army.

One ("Peninsula") is awarded as previously stated, and the remaining thirteen belong to the general actions and sieges of Wellington's main army operating under his own eye.

They are only awarded to such divisions, or even regiments, as were deemed to have been actually engaged. "Douro" is the most striking example of the sparing way in which honours were allotted: Talavera the best example of a liberal and universal awarding, and they were well-earned there in all conscience.

The first of these honours—"Roleia"—has been sharply criticised on the ground that it was fought only four days before Vimiera, and that all the regiments that were present also have Vimiera on their Colours: that it was, in fact, merely a preliminary skirmish to the latter battle. The criticism is sound, for, although it was a fine bit of attacking work, Roleia's claims are no greater than those of Donauwerth, Mallavelly, Argaum, Usagre, the Siege of Salamanca, Quatre Bras and other affairs which could be classed as preludes or corollaries to more important actions; and are certainly smaller than those of the actions of Masséna's retreat. However, the absence of a campaign honour for the 1808 work certainly raises it above the level of Koosh-ab or even Kirbekan.

In Moore's Army, I have already mentioned Benevente as an omission. If the cavalry were granted "Corunna" they might be solaced for its absence.

Coming to Wellington's main army, the first serious omission is the Coa, to which I have already referred. (Though the Light Division were semi-detached, they were more an integral part of the army than Hill's or Beresford's forces at the special actions; and rather more so, I should say, than the Fifth Division at San Sebastian.) The honour is deserved not merely for the combat, but also for the months of admirable work which had preceded it, without which the political battle of Busaco might never have been fought, nor—just conceivably—the British Army allowed to remain in the Peninsula. The next, and an even greater, omission is the pursuit of Masséna from Santarem in the spring of 1811, interspersed, as it was, with many gallant and bloody fights like Foz d'Aronce and Sabugal. The exclusion of any honour for this, the triumphant finish of a victorious campaign, is most unfair.

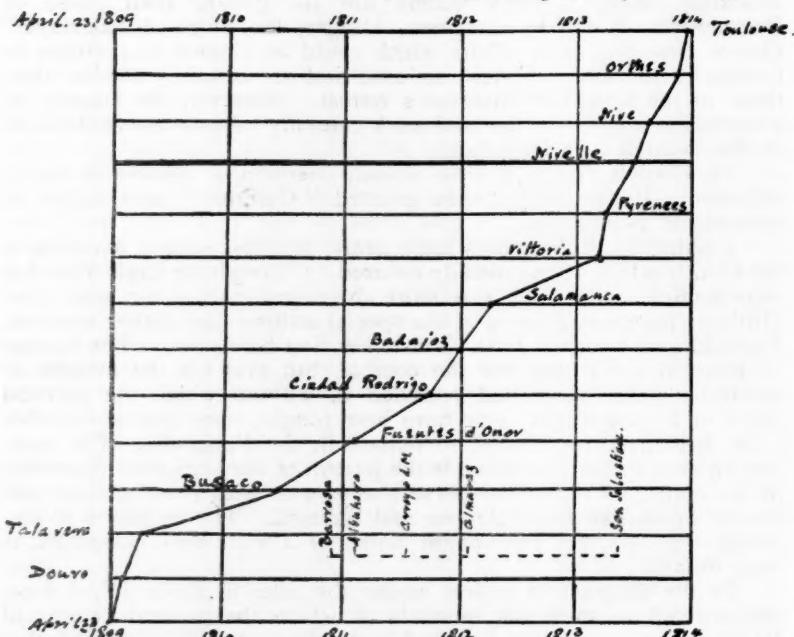
In the diagram in which, under the title of Table IV, I have endeavoured to show the intervals at which the general actions of Wellington's main army followed each other, it will be noticed that the gradient profile is very steep for a short way to start with and for a longish way at the finish, but flattens perceptibly in the middle, especially between Talavera and Ciudad Rodrigo. This was the period during which Napoleon, thanks to the victory of Wagram, was able to pour immense reinforcements into Spain, until the opening of the war with Russia stopped their flow. Wellington, on the other hand, had learnt at Talavera that the Spaniards were so unreliable that they could not be reckoned on at all¹: his Portuguese were an unknown

¹ Scant justice has been done to the Spaniards: their undisciplined conduct and total inability to manoeuvre in pitched battles has caused their great usefulness in irregular fighting to be forgotten; but even at Talavera and Albuhera some units behaved very bravely, if not very usefully.

quantity prior to Busaco, and his British reinforcements were sickly, and for the first half of the period exiguous. It was then that he got his reputation as a Fabian General; a very fine quality for a General to possess, who is invariably opposed by a more numerous army than his own, and one which stood him in good stead by its paralysing effect on the nerves of the French Generals whom he had beaten, but a most inaccurate description of Wellington, as Marmont learnt at Salamanca.

TABLE IV.

Curve showing the rapidity with which the honours of Wellington's main army were gained between April, 1809, and April, 1814.



Trisecting this flat period comes the Masséna episode. It is hardly necessary to describe it: how Wellington knew the attack would come and made his preparations, including the lines of Torres Vedras, to meet it: how he lay for months on the Portuguese frontier waiting to see what Masséna would do, and at the right moment retreated: how he halted at Busaco, gave the French a sharp lesson as to the fighting power of his forces, and then continued his retreat to Torres Vedras: how he watched Masséna's army melting away, and when the "Old Fox" began his retreat fairly worried him back into Spain, but with habitual caution halted again rather than leave the frontier fortresses in the enemy's hands; and how, finally, when Masséna once again, having

collected reinforcements, attacked him with a marked superiority of force, he beat him at Fuentes d'Onor.

Busaco and Fuentes d'Onor are the only actions in this period ranking for battle honours; and that they are awarded but sparingly is shown by Table V, and yet both may be described as *chance battles which might never have been fought, and had no bearing on the main Masséna episode*. Strategically, Busaco was of no value, but its value in other respects was of the greatest, and the battle triumphantly vindicated Wellington's threefold reason for fighting it. Firstly, he proved to the British Government and the public, and to the prototypes in his army of Punch's famous "Charley" of ninety years later, that he was not a beaten General and that "the leopard whose hideous presence contaminated the Peninsula" was *not* going to be "driven into the sea." Secondly, he showed the anxious Portuguese that he was not abandoning their country without a struggle, as malcontents were inclined to assert. Thirdly, by putting his new-model Portuguese army in an admirable defensive position he was able to prove to them that they could, without fear of defeat, meet the French columns in line, thus giving them confidence in the future, a confidence justified by the splendid conduct of the Portuguese in the Fourth Division at Albuhera eight months later. These results were of greater value than the purely military ones, though the latter are not to be despised seeing that for every single British and every single Portuguese casualty seven Frenchmen were put *hors de combat*, or more if we regard the disaster to the hospitals at Coimbra as a result of the battle. Wellington, judging by his "memorandum of operations" dated February 23rd, 1811, seems to have put the French casualties at Busaco at 10,000 at least, or eight times that of the Anglo-Portuguese Army; but the confusion arising from reckoning the strength of an army at one time in full, and at another without its officers and sergeants, makes calculations difficult if actual figures are not given. Busaco may be called an ideal, or even *the* ideal, Wellingtonian position, but still nothing displays more clearly the absolute coolness of the man and his complete confidence in his own judgment in choosing his position, than this deliberate halt to fight—for political reasons—against a good army, fully forty per cent. stronger than his own in numbers, and commanded by one of the ablest and most famous Marshals of France; while half his own army had yet to show that it was worth anything. Honour where honour is due: on Busaco, where he most emphatically "brought a race regenerate to the field" far more than on Albuhera, rest Beresford's real claims to "Bays" and to a peerage.

Clearly then, Busaco might never have been fought, and yet without it the true Masséna campaign would remain unrecorded on the Colours of our regiments. For Fuentes d'Onor is on another plane: the first attempt of Masséna had been stamped flat, and Wellington was once more on the frontiers of Portugal in triumph. Masséna, however, collecting large reinforcements prepared for a second attempt. This time Wellington, although again heavily outnumbered, had strong reasons for standing his ground, and the consequence was the hard-fought and long drawn out battle of Fuentes d'Onor, whereby the

British secured Almeida and maintained their position on the frontier. It is obvious that this battle also might very easily not have been fought; it was not of Wellington's seeking, and without his new reinforcements Masséna would not have risked it in a last desperate endeavour to shield himself from Napoleon's displeasure. Chance alone, then, has enabled any record to be retained of what was one of Wellington's finest exploits crammed with examples of great valour¹ and military skill on the part of his troops. The Masséna episode may be divided into three stages, and the peculiarity of its rewards will then be seen.

Stage.	Honours granted.
(1) Advance of Masséna into Portugal and retreat of Wellington	1
(2) Retreat of Masséna into Spain and triumphant advance of Wellington	0 ¹
(3) Repulse of Masséna's second attempt against Wellington	1

Certainly stage (2) deserves some recognition.

One other action in 1811 deserves to be rescued from oblivion: this was the combat of El Bodon, on September 25th. This affair, highly creditable to the whole Third Division, was markedly glorious for the 5th and 77th Foot. Wellington, never very lavish in praise, passed a high encomium on their conduct, not only in his despatch to Lord Liverpool, but in a general order published a week after the encounter. It is a pity that it should be entirely excluded from the Colours of the regiments concerned. Detachments of the 11th and 14th Hussars and of the 16th Lancers gained kudos on the same day.

The Siege of Salamanca was an entirely different operation from the battle of the same name, which it preceded by a month: if the Sixth Division, to whom its success was primarily due, had not been engaged—and very prominently engaged—at the *Battle* of Salamanca it might have been deemed worthy of an honour.

The curve of honours gets very steep after Vittoria, yet even there there is room for one further honour; the passage, namely, of the Bidasoa and capture of La Rhune. These operations cannot properly be included either in "Pyrenees" or "Nivelle," and, even if they could, that would be no consolation to the First or Fifth Divisions, who took a leading part in them and have neither of the above among their rather scanty Peninsular honours. The 9th Foot, in particular, distinguished itself, and its severe losses must have come hard on a regiment already seriously weakened by the recent bloody siege of San Sebastian.

A delicate subject to handle in connection with battle honours is that of defeats. Although it has been roundly asserted by competent authorities that the British Army has never fought better than under Dutch William in Flanders, or under Cumberland in the same parts at

¹ After Foz d'Aronce, that is quite early in the pursuit, Wellington gave a commission to one sergeant in each British battalion in the Light Division: he also pardoned several soldiers who had been convicted by a General Courtmartial. The regiments who took part in the pursuit without being engaged either at Busaco or Fuentes d'Onor are especially unlucky.

Fontenoy, Roucoux, and Laffeldt, it is unfortunately against the spirit of battle honours to grant them for a defeat. The most pointed exception that I know of, to this rule, was the action of that arch tergiversator Nicholas John-of-God Marshal Duke of Dalmatia, in ordering Albuhera to be regarded as a French victory and awarding it as a battle honour to the regiments present a quarter of a century after it had been fought. This was after he had turned his coat for the third time and had become Minister for War; and I expect old Soult was much more concerned about his own honour and glory than about those of the regiments who had fought there. As Napoleon was not a generous adversary, and yet refused to reckon Albuhera a French victory, we may rest content that Beresford's regiments have the better right to keep its memory green.

It must be admitted that at times the dividing line between victory and defeat is narrow. The rules of the game are that if A attacks B and fails to dislodge him, then B claims the victory, even though he makes no counter-attack against the discomfited A, nay more, even if he subsequently retreats. Kincaid's remarks on this point are worth studying after he had been present at Salamanca and seen a real crushing defeat inflicted on the enemy. It may readily be conceived how A's historians can, by a little slurring, make A appear victorious, and, as an example, Corunna appears on the Arc de Triomphe, and Quatre Bras has been known to be cited as a British defeat. If at Fontenoy we had allowed the French to attack us, and had repulsed them, but subsequently decided to retreat, we should, I suppose, claim it as a victory; as it was we retreated—we were not routed—having been the attackers, and having certainly made the French buy their victory pretty dear. Fontenoy is not flattering to British Generalship, but to British valour it is no less honourable than many—one can almost say any—actions which have gained honours.

When Uncle Toby said of our armies that they "swore terribly in Flanders," he was referring to his old comrades of the Steinkirk, Landen, and Namur campaigns, and not to an army which went over there some five-and-twenty years after the creator of Tristram Shandy had died, as was amazingly suggested in an illustrated magazine recently, by a writer whose loose ideas on the English classics and on men and matters military seemed on a par; and, indeed, it does seem a pity that room cannot be found for the inclusion for some such honours as "Flanders, 1692-93" or "1745-47" on our Colours. Tradition is against it; yet otherwise no true idea of the services of the regiments that fought there can be obtained. The heroes of the "Terrible Column" of Fontenoy, or who stood firm in the "Charnel House of Roucoux" were of the same stuff as the "men that fought at Minden" or "stood triumphant on the fatal Hill" of Albuhera.

Coming to the last class of anomaly, or rather of War Office caprice—the method of selection of the regiments that are to participate in the several honours—I find I have already touched on it by my allusions to the exclusion of the infantry from Warburg, the cavalry from Corunna, and the late comers from Nile, 1884-85—the determining features seem to have been, firstly, the extent to which the

unit was engaged, secondly, the size of the fraction of it which was present. Turning once again to the Peninsula, I have, in Table V, shown how the honours gained by Wellington's Army were distributed amongst the various Divisions. A comparison of this table with Wellington's despatches, or with reliable plans of the battles, will cause some surprise, especially when the footnotes as to recent additions are taken in.

TABLE V.

Allotment of Peninsular Honours by Divisions.

	Cav.	1st	2nd	3rd	4th	5th	6th	7th	NOTES.—
Douro ..	1	A	3G	F	—	—	—	—	A
Talavera ..	4	4	5	5	3	—	—	—	—
Busaco ..	—	5c	—	5	—	3	—	—	—
Fuentes D'Onor	2B	7C	—	5	—	—	—	2	—
Ciudad Rodrigo	—	—	—	6	—	—	—	—	—
Badajoz ..	—	—	—	7	5	4	—	—	—
Salamanca ..	6	3	—	7	5	6	6	2	—
Vittoria ..	8	—	10	7	8	6	—	6	—
Pyrenees ..	1B	—	10	3D	8	—	7	6	—
Nivelle ..	—	—	7	7	6	—	7	6	—
Nive ..	1	6C	10	—	—	7E	7	—	—
Orthes ..	3B	—	9	7	6	—	7	6	—
Toulouse ..	4	—	1	7	8	—	6	—	—
Albuhera ..	3	—	10	—	3	—	—	—	—
Arroyo dos Molinos ..	—	—	—	1	—	—	—	—	—
Almaraz ..	—	—	—	3	—	—	6	—	—
San Sebastian ..	—	—	—	—	—	—	—	—	—

A. The comparative smallness of the figures in these columns is due to the number of foreign battalions in these divisions.
 B. Till recently 1, 0, and 2, respectively.
 C. Till recently 0, 5, and 3, respectively.
 D. Till recently 2 only.
 E. Till recently 6 only.
 F. Excluding the 60th, as stated above, whose Headquarters were in this Division.
 G. Not yet called the Second Division, but these three regiments formed its first brigade at Talavera.

It should further be noted that after Salamanca the Second, Fourth, and Seventh Divisions had each a "Provisional" battalion, so that the regiments honoured exceed by one the battalions present. On the other hand, the 48th had two battalions at both Talavera and Albuhera, the 7th two at Albuhera and Busaco (though the 2nd Battalion there did not rank for honours), and the 5th two at Salamanca. The numbered regiments honoured for Albuhera are two less, and for Talavera and Salamanca one less than the battalions present.

The sparing manner in which "Douro," the first of the honours

Light Division is not shown; it was present at every action from Busaco to Toulouse. The 52nd and Rifle Brigade sometimes had more than one Battalion present. The 43rd missed Orthes.

The 60th are also not included. They hold every honour in the above list from Talavera down to Albuhera inclusive.

on Table V has been allotted, is no doubt due to the rapid flight of the French from Oporto; but the triumphant and inspiring success of the whole episode was such that the honour might well be given to the whole of the force engaged. Even if it be confined to the actual scrimmage in Oporto, both the Guards and the 29th seem rather hardly treated. At Talavera, on the other hand, every regiment present received the honour, and in addition to those shown in Table V there were, besides the split-up 60th, two cavalry regiments and eight infantry battalions present which have no counter part in the modern Army List.

I have already referred at some length to Busaco and Fuentes d'Onor, and alluded to the ill-luck of the regiments that took part in the Masséna campaigns without any recognition. It will be noticed that the First Division has had a limited amount of very tardy justice done them in this matter, but the Fourth Division are much less fortunate. Placed on the left of the Light Division at Busaco their help was not required, though their moral support must have been considerable: they helped to man Torres Vedras and were in the pursuit of Masséna as far as Redinha, when they were sent off south, too late to save the treacherous surrender of Badajoz, but in time to be present at that dispiriting first leaguer of it; while only one of their British Brigades was at Albuhera. It may come as a surprise to learn that they, with the First Division, took part in the Siege of Ciudad Rodrigo, and that not only are their services referred to by Wellington, but that in his despatch he specially mentions the work of the Guards Brigade and the 40th Foot in the subsidiary operations. The last named regiment and the 27th are the notably unlucky regiments of the Division; the gap between Maida and Badajoz on the Colours of the Inniskilling Fusiliers, and between Talavera and Badajoz on those of the South Lancashire, give a totally wrong impression of their record between 1809 and 1812. After this they had their full share of hard knocks, and the praise they got from Wellington for their conduct at the Pyrenees is almost enthusiastic. It is instructive to note that when decades afterwards old Sergeant Cooper of the 7th Fusiliers got his Peninsular medal from Fitzroy Somerset he received clasps for Ciudad Rodrigo and Busaco, though he was in the Fourth Division at both those actions. Admitting that clasps are given a degree more generously than battle honours, it shows, at any rate, that the claims of the Fourth Division to those honours are worthy of investigation.¹

Considering the way the Reserve Divisions or Brigades at the various general actions have been served, one may be pardoned for wondering whether, but for Bonnet's desperate rally, the Sixth Division would have been allotted Salamanca. The Third Division, under "Ned," very literally obeyed Wellington's orders to "drive those fellows to the devil," and the cavalry were splendid, but the Sixth Division were really the heroes of the day. They played a part very similar to that of the Fusiliers at Albuhera, and their losses were on a corresponding scale. "I ordered up the Sixth Division, under

¹ On the same reasoning the Third Division have good claims to "Nive."

Major-General Clinton, to relieve the Fourth, and the battle was soon restored to its former success," is Wellington's dry and inadequate comment on their conduct. The numerical weakness of what should have been good strong units, first battalions which had been neither at Corunna nor Walcheren, seems to indicate heavy losses at the aforementioned successful but unrecorded *Siege* of Salamanca; and the conjecture is rather borne out by the knowledge that Bowes, who commanded the Second Brigade, was killed there. Taking a line through the awarding of some other Peninsular honours, but only so, one would say that the Light Division were a trifle lucky to get it, while, on the other hand, considering the work of their "Light Battalion" alone at the Arapiles the Guards seem as unlucky as usual in not getting it. Before leaving this action, I should like to remark that it is one of the very few which the authorities have contrived to spell correctly.

There are two curious cases of single regiments out of a multitude getting honours: the Buffs alone of the large Second Division qualified for Toulouse, and the 34th, from the same Division, alone obtained Arroyo dos Molinos. This last selection has always puzzled me, even more than the first, and I have not yet solved it: the sole apparent solution being the decidedly theatrical one that the French 34th were engaged and were mostly taken prisoners, their drums being secured by the British 34th. The smallness of the casualties on our side merely means that like everything Hill did it showed the master hand, and it was one of the most completely successful incidents of the Peninsular War. The more one studies it the more one sees that every regiment there put up a good show, and that this honour should be awarded to every one of them. It is, I suppose, only natural that its merits should not be recognized, when we remember that Hill only received a Viscountcy practically on his deathbed, years and years after the same reward had been bestowed on Combermere and Beresford!

A very marked bit of caprice occurred in recent years in connection with "Tirah." A great deal of fighting on the North-West Frontier of India took place in the summer, autumn, and winter of 1897, of which the Tirah formed one—and no doubt the most prominent—part; but it was only a part, and the regiments who had a rough time in other sections of that year's fighting should not pass unnoticed.

Difficult, no doubt, and certainly inconsistent in results, has been the decision as to the necessary size of a detachment to justify the unit to which it belongs claiming an honour. Volunteer battalions which sent out one company apiece, or even a fraction of a company, to South Africa were given the honour; but that was an exceptional case. Talavera, San Sebastian, Abu Klea are all actions where some small detachments were present. Barrosa is more notable: the important part played by Browne's composite battalion, and its heavy losses, leads one to think that the 9th and 82nd might have some recognition of the fact. The Guards have received the honour, but, no doubt, their weakest detachment was nearly twice as strong as either of the two I have just mentioned. There is, on the other hand, a record of a detachment whose strength cannot have been much greater, and whose

casualties were almost certainly lighter, which received an honour. This was the Rifle Brigade at Copenhagen.

When Hyde Parker went up the Baltic in 1801, he took on board his fleet "the 49th Regiment and two companies of the Rifle Corps"; the latter must have formed a smallish fraction of the total military force. I do not know how they were divided among the ships, or what proportion of each corps was present at the actual Battle with Nelson, or what proportion remained outside with Hyde Parker. The total casualties sustained by the army were 64.

In the Peninsula itself it must be open to doubt whether the numbers of the 9th and 82nd, at Barrosa, were much smaller than those of the 60th at Albuhera and Ciudad Rodrigo: three companies in each case I think. In the latter actions of the war, also, the strength of the various halves of the provisional battalions must have been very low—the 2nd and 53rd, for instance, at Toulouse. I have already adverted to the case of the 20th Light Dragoons, and there are occasions when the Household Cavalry have been rather fortunate. In no single instance do I suggest that the honour has not been earned, I mention these rather as so many precedents for more liberal recognition of detachments at Barrosa, and elsewhere.

In what I have written I have only touched the fringe of a very large subject, but I have shown that a good deal of injustice can be remedied with very little difficulty. In less evident cases it is for the regiments concerned to plead their own cause. They should, however, be sure of their own ground.

In emphasizing the ill-luck of some regiments, and in pointing to the anomalous way in which honours have been distributed, I may, at the first glance, seem to have disparaged not a few existing honours. A second glance will show, I hope, how repeatedly mitigating circumstances crop up. Let us take "Koosh-ab" as a datum line as being, on the whole, the least deserved of the existing honours, less deserved, in fact, than all the omissions I have referred to, and also—or at any rate no better deserved—than certain others, such as Busaco by the Second Division, or Talavera by Craufurd's Brigade. This at once gives the holders of every other criticized honour something to go upon, as they can point to at least one honour inferior to any of their own; all of which, no doubt, may seem very hard on the Koosh-ab regiments, until my remarks on Lucknow and Ginnis are noted, which should make up to them for anything I say about Koosh-ab.

As to Kirbakan, it is quite as good as many other honours, but both the Kirbakan regiments might claim an even more glorious honour in its place if they lost it. With regard to Roleia, of the five regiments which did the hard work, three have been definitely mentioned as having earned honours not granted to them at El Bodon, at Barrosa and the Bidassoa, and at the Douro, respectively; of the other two, one has been a sufferer from inadequate recompense in 1884, the other in 1810, 1811, and 1897: the supporting regiments, setting aside all question of Vimiera, really did little more than the unhonoured regiments at the Douro (where several of them were present), if as much; and with one possible exception, every single one could claim

a compensating honour for one or other of the numerous reasons that I have specified in this article.

It is much the same story with the linked regiments. All must be regarded as fortunate, but some of those which I pointed out as amongst the most fortunate have been also individually mentioned as having been unjust sufferers in other respects.

Except that it cannot be denied that some honours have been very cheaply awarded, the intention is not to disparage or minimise existing honours, but to demonstrate the ill-luck of those regiments who have no compensating cheap honours for their unrequited services. The unrecognised Douro, or Siege of Salamanca, regiments who get an honour for being spectators at Roleia are more fortunate than those who do not: the regiments who did more for their one honour of Lucknow than for their more numerous Persian honours receive a compensation denied to others, such as the gallant 32nd: the regiments who lost heavily at Tamai, and are not consoled for the ignoring of that action by the double honour of Nile and Kirbekan, are less fortunate than those regiments who got one or both of those honours: the Arroyo regiments, linked to others rich in honours, are luckier than those linked to others with few honours: the unlinked regiments in exile in the Tropics, 100 to 120 years ago, are unlucky when compared to the exiled regiments who are linked to Peninsular regiments (especially the 46th, 80th, and 86th, but there are others): the Berkshires, with their double honour of Suakin and Tofrek—well-earned as it may be—can contemplate with more equanimity than the Yorkshires the exclusion of Ginnis. And so on with a score of similar cases, and it is the unlucky ones whose claims I would put forward.

A few geographical and chronological statistics about our battle honours may not be devoid of interest. India, if Burmah and Afghanistan be included, claims a good third, more than half of which belong to North-Western India, though the earliest were principally in Southern, and a few in North-Eastern India. If we add the Western Asia, Spice Island, and Southern China honours, with those of the half-way houses—Cape, 1806, and Bourbon—we get well over forty per cent. due to the Indian Empire, directly or indirectly. At the other end of the scale, single honours separated by immense distances from the locale of any others are Montevideo, New Zealand, Ashantee, and the afore-mentioned Bourbon. Rather less isolated are Maida, The First of June, Bladensburg, "Beni Boo Alli," and Abyssinia.

Next to India, Spain, with the neighbouring countries of Portugal, South-Western France, and North-West Africa is good for twenty-eight honours. North-East Africa produces fifteen, and South Africa, with Bourbon, fourteen. The Antilles are worth twelve if we include Surinam; but if, by adding Rodney's action, we bring the total to thirteen, we should also add Jervis' action in honour of the old Agamemnons and so raise the Iberian honours to twenty-nine. The "Low Countries" give us twelve, North America eight, Germany and China—fitting juxtaposition—each six, but China is inclusive of fauna, a necessary inclusion as one regiment gets the Dragon without China.

If a map of the world on Mercator's projection were attached to each regiment's honours' list, and the honours marked thereon, some striking differences would be noted. The Munster and Dublin Fusiliers being formed from John Company's oldest European regiments present on that account an unique array of oriental names prior to South Africa, 1899-1902. It has been said that the military history of the Indian Empire may be gleaned from them; but the remarkable slackness both of orthography and of chronological order in the honours, which recent Army Lists have only partially remedied, does not tend to aid historical research.¹ The Seaforth Highlanders have been called the "Saviours of India," and it is significant that while the most Easterly of their very respectable list of honours was gained at Java, the most Westerly one was gained at Maida. The Guards are bounded on the East by Suakin, on the West the Grenadiers by Corunna, the Coldstream and Scots Guards by Fuentes d'Onor *at present*: yet the long record of the Grenadiers includes fighting in Morocco, Belgium, Germany, Spain, France, Holland, Russia, Egypt, the Sudan, and South Africa. The only one of these countries not included on the Colours of the Coldstream is Holland—an unfortunate omission seeing that it was there that the gentlemen of the Coldstream Guards all cut off their pigtails one night, thereby giving an excellent example to the rest of the Army, who need not have taken nearly a decade to follow it, and flabbergasting their officers, who did not feel up to courmartialling a whole regiment generally very loyal and well-behaved. When the Coldstream get their Dutch and Portuguese honours they will beat the Grenadiers by one country.

As a sharp contrast to these rather contracted limits, those two very famous Peninsular regiments, the Oxford and Buckingham Light Infantry and the Northamptons, by extending from Quebec to New Zealand, spread more than two-thirds of the way round the world, a record nearly equalled by the South Lancashire and Wiltshire Regiments, who have Louisburg, and the East Surreys and York and Lancasters, who have Guadaloupe in place of Quebec. The Wiltshires, it may be noted, are the only regiment who have worn a distinctive badge in memory of a fight on British soil against the foreigner: it is a pity that the craze for disregarding the past should make me write "have worn" instead of "wear," as I believe I am correct in doing. Other regiments which extend nearly, if not quite half way round the world, are the Royal Scots, Royal Welch Fusiliers, Welsh, Essex and Berkshires; all very ubiquitous, the first especially, whose honours are derived from North America, Cuba, St. Lucia, Portugal, Spain, France, Belgium, Holland, Germany, Russia, Morocco, Egypt, South Africa, India, Burmah, and China: some of its admirers have even claimed "Judea, A.D 29" for this ancient regiment, but its claims at best are doubtful, and in any case it was not in British pay at the time. The South Lancashires are not far behind with honours, derived from Canada, Cuba, St. Lucia, Martinique, Uruguay, Portugal, Spain,

¹ Still one would like to see such delightful mouthfuls as "Conjeveram" and "Chingleput" added.

France, Belgium, Russia, Egypt, South Africa, Afghanistan, India, and New Zealand; nor are the Gloucesters, with Canada, Cuba, Guadaloupe, Martinique, St. Lucia, Portugal, Spain, France, Belgium, Italy, Russia, Egypt, South Africa, and India.

In time the honours extend over the following periods:—India, 1751 to 1897; Spanish group, 1662 to 1814; North-East Africa, 1801 to 1898; South Africa, 1806 (Query why not 1795?) to 1902; West Indies, 1759 to 1810; the “Low Countries,” 1695 to 1815; Germany, 1704 to 1762; and China, about 1839 to 1900.

In chronological order there are three markedly barren periods: the fifteen years between Tangier and Namur, the thirty-four years between Malplaquet and Dettingen, and the twelve years between South Africa, 1902, and the Great War; the last due to no British regiment acquiring an honour for the Thibetan Expedition. The next longest interval is the roughly ten years which intervened between Buxar and the first Rohilcund war, due to the inexplicable omission of Trincomalee. Two other rather slack periods were between 1817 and 1839, and between 1860 and 1877, the latter period being the more remarkable seeing that it was one in which European nations, or nations of European descent in America, were engaged in a series of what were, in those days, regarded as most sanguinary wars.

In contrast to these, the seven years which began with Plassey produced seventeen honours: the ten years to the Peace of Amiens produced twenty-six; Salamanca was the thirty-fourth honour granted in ten years, and Maheidpore and Nagpore terminated a run of thirty-eight honours in ten years. No decade in later years could compete with these figures, the most crowded periods being the decade from the first Afghan to the second Sikh War, twenty-two honours; the decade following, which terminated with the second China War, sixteen honours; and the decade which led up to the last Burmah War, nineteen honours. The periods terminating with Salamanca and Nagpore overlap of course: it may make it clearer to say that fifteen years produced half a hundred honours, of which a dozen were confined to one or two regiments, while others were granted to thirty or more; Vittoria, for instance, being granted to eight cavalry and forty-one infantry regiments, but as ten of the latter have now been converted into five linked-battalion regiments, only forty-four units in the modern Army commemorate that battle.

The advantages gained from being “on the spot” appear during the more crowded periods, several regiments having picked up, in two or three years, four, five, or even six honours at which there cannot be the slightest cavil; these are exclusive of any I have touched on already.

I must end with two apologies. The first is to the Light Division if it should appear that I have said anything derogatory about their work at Salamanca. Whatever they had to do they are sure to have done as well as possible; but it is questionable whether they had much more to do there than the Divisions, which are so jealously and carefully excluded from gaining battle honours at other general actions, had to do on the various occasions in question. The fact is that, after the Light Division’s unsurpassed record in the four preceding big

affairs, it is startling to find them so left at the post (owing to the fluke of Marmont's false move being out of their reach), that they merely came in at the end to help to mop up a beaten enemy. There have been many honours less well-earned than the Light Division's Salamanca, and in any case they have, as we have seen, got at least two more owing to them.

My second apology is for plagiarizing, especially about the Peninsular War. But, about that war, plagiarism is unavoidable; either one must assume that every detail of it, political, strategic, and tactical is universally known or one must harden oneself to draw attention to points which half-a-dozen writers have already emphasized. As a marked instance of this to have omitted the theory of Wellington's real reasons for fighting at Busaco would have been to give a false perspective of the Masséna interlude, but it is a point on which historians have already seized.

There is one Peninsular writer to whom I must refer, and that is Wellington himself, as he appears in the pages of Gurwood. In the maddening string of "— — of the — Regt.," which perpetually brings us up all standing as we read the despatches, the Duke, or possibly Gurwood, is occasionally caught napping. When the Duke, sternly, though not unsympathetically, tells an angry Colonel who is aggrieved at not getting a K.C.B. and certain clasps, or rather medals, "I hope . . . you would have defended me with the —nd Regiment," the names "Arroyo Molinos," "Alba de Tormes" "Aire," "Fuentes de Oñoro," and "Pyrenees" make it fairly easy to say which —tyscound Regiment the Colonel had commanded. It is also rather hard to believe that Wellington (I won't say Gurwood) thought that — — could conceal the identity of the Brigadier whose incompetence had involved the Royals and 3rd D. Gs. in an unmerited disaster in June, 1812. Compared to some of the dashes and blanks, such very thin disguises as these, are like those acrostics which open a new quarter and lure beginners into imagining themselves certain prize winners. If they were all as easy of solution we should have some very valuable clues to Wellington's opinion of certain regiments and their commanding officers, which would not be without their uses for such a subject as this.

"The old order changeth" so much that furious denunciations have been levelled against the Red Uniform of the Army, but the thoughts of those fifty-one months that began in August, 1914, ought not to efface the memory of the deeds of the men of old time, to whom we greatly owe it that it lay within our power to make that courage not only felt, but so terribly felt, that we were able once more to emerge from the contest victorious over our enemies.

THE FRENCH CAMPAIGN OF 1920-21 IN CILICIA.¹

By MAJOR T. E. COMPTON.

¹ Since this article was written, the Turkish National Assembly of Angora, after a long delay, finally refused to ratify the Treaty of Peace with France negotiated in London by Bekir Sami Bey, Mustapha Kemal's foreign minister. As is well known, it has now been ratified with certain modifications.

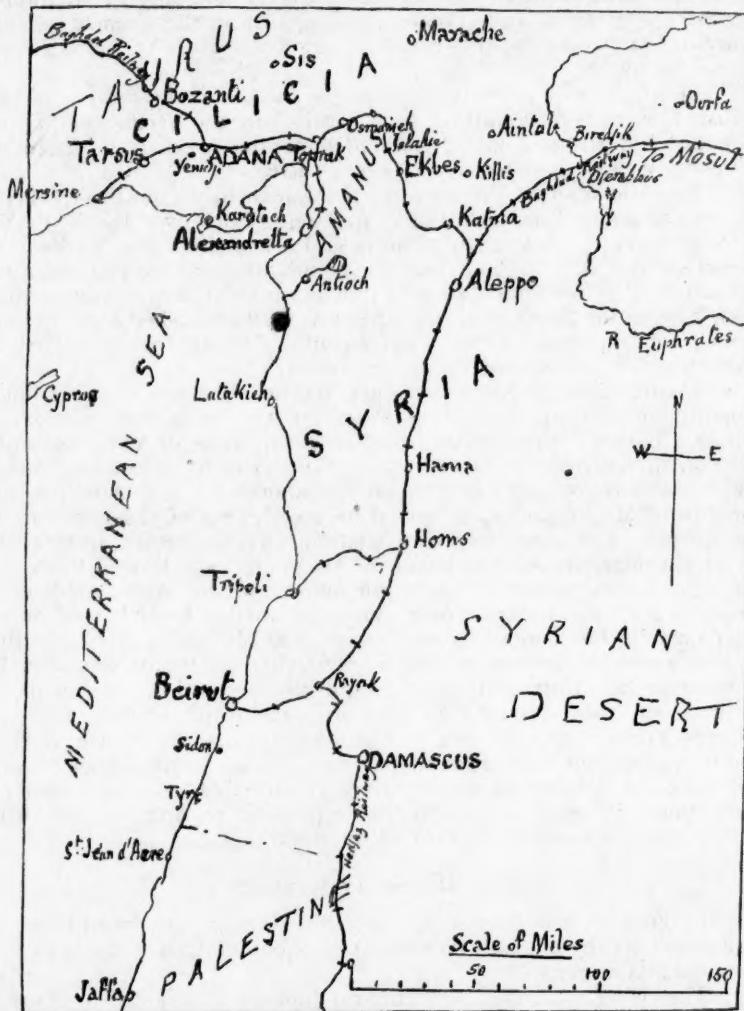
THE difficulties presented to General Gouraud by the situation in Syria were very great, when in November, 1919, he first set foot in that country, at Beirut, as French High Commissioner. To begin with, from a military point of view, his means at that time were quite inadequate to impress the native mind with the strength of France. The taking over from the British had thus left him, temporarily, with diminished prestige. British policy, moreover, was apparently to oppose the Arabs to the Turks and to favour the transfer of the Caliphate from Constantinople to Hedjaz—just the exact opposite to French policy. In taking over the mandate in Syria from us, General Gouraud, as representative of the French Republic, had with inferior military means to begin the settlement and organization of the country all over again; for it was not merely a matter of relief of British by French troops, but a complete change of policy and ideas.

Cilicia lies to the north of Syria, between the Taurus and the Mediterranean, surrounded by mountains. It is about 250 miles in length from Mersine to Ourfa, while from Alexandretta to Marash in the north the distance is 100 miles. Once administered by Cicero, who was pro-consul there about the year 51 B.C., it is now inhabited by Turks, Arabs, and Armenians, and is still a Turkish province, with Adana as capital, whence the Baghdad Railway runs to Aleppo and Mosul.

Why, with all their other difficulties, the French were in Cilicia at all is somewhat surprising; but it would seem to have been partly due to the demands of the Armenians, who furnished three out of the four battalions occupying the province, when, after the armistice, Lord Allenby (in accordance with the Sykes-Picot agreement of 1916) divided the whole country, west of the Euphrates and Syrian Desert, into three spheres of influence—N. and W., French; S., British; and E., Arab.²

² Cilicia, for its size, is one of the most promising agricultural countries in the world. Under the Treaty of Sèvres, France had the right to assist Turkey if called upon, in developing the country, with priority over the other treaty powers in respect of railways, mines, etc. Cotton might be produced enough for the whole of French requirements.

Without going into the question of our promises to the Emir Feisul, the weak point of this arrangement was that the Hedjaz Railway ran through the latter sphere, thus cutting off Beirut from Cilicia by rail,



except by permission of the Arab Government of Damascus. This permission to use the railway to Aleppo being refused, the Emir had to take the consequences. Whatever his own opinion may have been the intractableness of his fanatical officials, who were in league with the

Turks, made his overthrow a military necessity for General Gouraud. But this is anticipating events.

In November, 1919, there was only a sprinkling of troops (principally Armenians in the French service) in Cilicia, and only 13 battalions, 3 cavalry regiments, and 4 batteries altogether in the French sphere, replacing 34 battalions, 15 cavalry regiments and 13 batteries of British troops.

This transfer of responsibilities in Syria was at the request of the British Government according to "Testis" in the *Revue des Deux Mondes*,¹ but without doubt, for many months previous it had been persistently clamoured for by the French Press.

There was a small French force at Marach in the north of Cilicia, where, thanks to Lord Allenby's crushing victory over the Turks in September, 1918, the year 1919 had passed peacefully. The Turks were overawed and the large Armenian population was correspondingly jubilant—rather too much so and prematurely, as things turned out. Even now, at the time of writing, after a year of bloodshed and ultimate French victory, by the London agreement of March, 1921, the Turk is once more left undisputed master in Cilicia.

In 1919, while the Supreme Council of the Allies was engaged interminably in drafting treaties in Paris for the settlement of Central Europe; Turkey, left alone and her settlement more or less necessarily postponed, had time to recover from Lord Allenby's stunning blow. She was, moreover, owing in great measure to the commanding personality of M. Venizélos, subjected to every form of exasperation by the Entente, with singularly inadequate means of control. Even if the Greek elections had gone in favour of M. Venizélos, Marshal Foch had estimated the strength required for enforcing the Allied policy in Anatolia at three hundred thousand men; a number much larger than—after demobilization—the Entente could possibly find. It is true that France wanted to have peace with Turkey when this figure was officially published; but Marshal Foch can hardly be accused of increasing his estimate on this account. In any case, the result of this policy as regards Turkey, was to unite all political parties in defence of their country, and Mustapha Kemal, having come to an arrangement with the Russian Bolsheviks as to Armenia, was able to form a national government in an almost impregnable position at Angora, with what public opinion exists in Turkey at his back.

THE RISING AT MARACH.

In view of the Nationalist menace, Marach was reinforced on January 12th, by a small column under Commandant Corneloup with two mountain guns.

The rising took place suddenly on January 21st, aided by Turkish gendarmes who had a gun on the heights overlooking the town. Although brought to a head by the attempted arrest of Mussulman malcontents, it had been clearly fomented and engineered by the Angora

¹ February 15th, 1921.

Government, and henceforward (up to March, 1921) a state of war existed between France and the Turkish Nationalists.

The French troops in Marach, including Armenians, Algerians and Senegalais, the latter little able to stand the rigours of the climate, numbered about 4,000 in all. The suddenness of the rising caused them to be blockaded in seven distinct parties and localities: (1) The Grain market; (2) The Armenian Church; (3) Protestant Church; (4) Orphanage; (5) Latin Church; (6) Konak; (7) Barracks. No. 7 was completely isolated. Nos. 1, 2, and 3 were able to establish inter-communication under the command of Corneloup. Nos. 4, 5, and 6 were similarly situated under General Querette. Twelve thousand Armenian civilians found refuge with the troops.

To relieve Marach, a regiment of Turcos (disembarked at Beirut on the 10th and re-embarked for Mersine on the 15th) and one other battalion were available at Adana. With these four battalions, a battery of 75 mm. and some mountain guns, a relief column was formed under Colonel Normand, which reached Marach on February 7th, using camel transport. The weather was at this time very cold, but open.

The heights where the Turks had had a gun were captured, and the French 75 m/m field guns soon decided the enemy to retire. But the difficulties of supply in winter, with the country hostile, were deemed to be insuperable and retreat to Islahie and Ekbes on the Baghdad Railway, sixty miles south of Marach, was decided on.

Five thousand Armenian refugees, men, women and children, elected to accompany the troops. Then began one of the most lamentable and distressing tragedies on record.

The distance from Marach to Islahie, the place of refuge on the Baghdad Railway (north of Ekbes), when the refugees could be transported in due course to Adana, or elsewhere, by rail, was roughly sixty miles, and no doubt, for reasons of supply, protection, and probably shelter, it was necessary to traverse this stretch in three marches. It may be imagined how trying, even to the troops, must have been these three long successive marches after compulsory confinement, owing to blockade, for three weeks previously. But for old men, women and children, who had experienced like confinement, the operation became a sheer impossibility. It was freezing hard at night, and for the whole of the third day there was snow.

Three thousand refugees are said to have perished.

The march began on February 11th, and the advanced guard reached Islahie on the morning of the 14th, the rear of the column being then six miles behind. The snow, fatal to so many, was fortunate for the survivors, for as long as it lasted there was no danger from the enemy, and the remaining 2,000 refugees and other impediments could be evacuated, or parked, without hindrance. A defensive front, also, could be organized rapidly, without interference, on either side of the Amanus, a mountainous region east and north-east of Alexandretta.¹ The railway makes a curve round it to get to Aleppo, and a branch line runs to the west of it, from Osmanieh to Alexandretta.

¹ Cicero's military operations consisted of freeing the Amanus of brigands.

THE FRENCH FRONT IN CILICIA.

It was an immense front for the two divisions (by this time available) to hold: from Mersine to Ourfa, about two hundred and fifty miles as the crow flies.

1st Division (General Dufieux), Mersine—Taurus Mountains—Adana—Baghdad Railway to about Islahie—Alexandretta.

2nd Division (General de Lamothe) Ekbès—Killis—Aintab—Region of the Euphrates—Ourfa, with base at Katma on the Baghdad Railway some thirty miles north-north-west of Aleppo.

The Amanus Mountain lies between Alexandretta and Katma. Thus, while the 1st Division was based on the Mediterranean, the 2nd Division should have been based on the Beirut-Aleppo Railway. But the hostility of the Emir Feisul's Government rendered this uncertain.

Consequently, General de Lamothe had to depend for four months chiefly on railway communication with Adana, and by railway and road with Alexandretta, but it was several weeks before the road route could be safely organized.

Both the above-mentioned divisional generals had distinguished African experience to their credit. Dufieux as Chief of Staff to General Gouraud in Morocco (and during the war on the staff of General Petain), Lamothe as the astute reconciler of the Southern Tribes while Morocco was still depleted of troops.

At the beginning of March, the enemy's advanced parties became active on the Baghdad Railway, requisitioning men and supplies. Ourfa and Aintab were attacked and, on March 10th, the Lazarist Monastery of Ekbès was reoccupied by the French after a combat, and then evacuated. The fate of Ourfa was only a forerunner, unfortunately, of many similar highly regrettable incidents of this campaign. Ourfa was garrisoned by the 18th Algerian Tirailleurs (Turcos) and one French infantry company. On April 11th, the town, cut off from all communication with Katma, was surrendered on terms, which included free passage for the garrison to join the 2nd Division. But on the way, it was treacherously ambushed and all but destroyed. One soldier, of the European company, escaped to tell the tale, and later, according to the *Revue Hebdomadaire* of January 15th, 1921 (from which account and from that of the *Revue des Deux Mondes* of February 15th and March 1st, 1921, most of the facts given in this paper have been derived), one officer and one hundred men were delivered up by the Kemalists in an exchange of prisoners-of-war.

Aintab was besieged by 3,000 of the enemy with six guns, chiefly local auxiliaries no doubt, but there was also a covering force with guns. General de Lamothie was powerless to attempt its relief before the end of March; but, in the meantime, with two battalions available, he succeeded in revictualling Biredjik on the Euphrates, and all his posts on the Baghdad Railway as far as Tel Abiad (twenty-five miles south of Ourfa).

The relief column proper reached Aintab towards the end of the month, easily defeating the Kemalist forces opposing it. After re-

victualling and reinforcing town and garrison, the column pushed on to the relief of Ourfa.

Most unfortunately for that garrison, there was a Mohammedan rising at Aintab on April 2nd, and by the time the news reached Colonel Debieuvre, the Commander of the column, he had already reached the Euphrates. Returning by forced marches, the column was engaged for several days in fighting the enemy and in quelling sedition among the townspeople, and could not resume its march on Ourfa before April 26th, long after that place had capitulated. Colonel Debieuvre, on learning of this catastrophe, determined to avenge it and restore to some extent French prestige in the region by falling suddenly on the Kemalist camp between Biredjik and Djerablous (Baghdad R. post) on the Euphrates. In this he was entirely successful (May 5th-7th), defeating and dispersing the enemy, administering upon him well-merited punishment for the Ourfa treachery.

The column then returned once more to Aintab and fought there another successful action against the assembled Kemalists of the region.

DISASTERS IN THE TAURUS.

On the other (western) side of the Amanus, the 1st Division had had, during this time, an even harder task than the troops of General de Lamothe, and had been faced with a situation still more difficult. Up to the end of March, General Dufieux's attention had to be directed to clearing the Amanus and railway to Ekbès of the enemy—sole line of communications for General de Lamothe—and in relieving and re-victualling his posts in this region. In April, the same class of operations had to be carried out on the railway line from Adana to Mersine.

The French had posts in the Taurus Mountains (Sis, Keblebek and Hadjikiri) and a garrison held the town of Bozanti on the Baghdad Railway, some thirty miles north of Adana. The Turks made their principal efforts from this direction and in the Amanus, with the object of cutting Adana from the Mediterranean ports. In May, General Dufieux determined to make an effort to succour the above-mentioned posts, although only four battalions, two batteries and one squadron could be spared for the purpose. This column left Tarsus on May 17th, but found itself opposed in the mountains by Turkish regulars holding three successive prepared positions. Two were carried, but the third proved too strong for the small force engaged, which had already suffered casualties. This check had serious consequences. Bozanti succumbed after two month's desperate resistance, and all the other Taurus posts were forced to surrender. Several hundreds of prisoners fell thus into the hands of the Turks.

Meanwhile, the Baghdad Railway between Adana and Ekbès had been cut in several places, and much damage done to bridges and telegraphs. At Osmanieh, the French had two tanks, which enabled the garrison to keep the enemy at a distance until the Turkish main raiding column arrived and occupied part of the town, bringing guns into action against the camp.

AN ARMISTICE.

At this juncture, when the situation of General Dufieux's division was rapidly becoming desperate, and the supply question for the 2nd Division anything but safe, a remarkable thing happened, most fortunate in every respect for the French forces in Syria as well as in Cilicia—an armistice of twenty days from May 30th was signed at Angora by the French political agent in Syria, M. Robert de Caix, and representatives of Mustapha Kemal's Government. The Turks engaged to exchange prisoners and evacuate the railway and the French Aintab.

Harvest work was, apparently, the chief inducement to cause the Turks to consent to this truce, which, although it was indifferently kept by their partisans, conferred—there is not the least doubt—an enormous boon on their adversaries. Moreover, in the eastern sector, occupied by the 2nd Division, active hostilities did not recommence for several weeks after the armistice had expired.

The French employed the time in repairing the railway, bringing up the 3rd Division (General Goubeau), withdrawn from Thrace and Constantinople, to Alexandretta and in assembling a striking force of ten battalions and eight batteries (which included a brigade of Senegalais, disembarked at Beirut during the armistice) in the Damascus direction, in case the Arab Government should continue to refuse to General Gouraud the use of the Beirut-Aleppo Railway. In addition, General de Lamothe profited by the lull in his sector to withdraw his Euphrates garrisons and to concentrate his division, in order to form with troops that could be spared from the 3rd Division, a force sufficient to occupy Aleppo, should the occasion arise. By these dispositions, moreover, the Katma-Alexandretta road became available for supplies.

On the armistice expiring, or even before, the Turks resumed hostilities. French punitive action in the neighbourhood of Constantinople was their excuse, although this matter had nothing to do with General Gouraud and Cilicia. But Mustapha Kemal's control over the extremists of his party has always been limited, on account of their ignorance and fanaticism.

Undoubtedly, the military successes and resources of Soviet Russia and the ambitious schemes of the bellicose Trotsky have had much to do with the revival of Turkish Nationalism. That Turkey should be able to defy the Powers and more or less dictate her own terms, little more than two years after her crushing defeat, is a very remarkable turn of events due to a combination of rather unexpected circumstances, but in great measure also to the military aid accorded to the Nationalists by the Bolshevik Government. If Mustapha Kemal can only restrain his followers, he would seem to be in a fair way, now at the time of writing, of obtaining a radical revision of the Treaty of Sèvres.

RESUMPTION OF HOSTILITIES AND EVACUATION OF THE AMANUS.

At the end of June, 1920, however, the Angora extremists had their own way with him and the menace of powerful Turkish forces in the Taurus against General Dufieux's left, threatening to cut Adana off

from communication with the Mediterranean ports, necessitated the evacuation of the Amanus by the French and the concentration of the greater part of the 1st Division at Adana. In July, before this concentration could be effected, the capital of Cilicia, Adana, was isolated and Tarsus and Mersine invested by strong bodies of Turkish regulars provided with artillery and machine guns. Not until the arrival at Adana, after much fighting, of the Amanus garrisons on July 25th, could anything of a decisive nature be done to relieve this dangerous situation.

Doubtless, the news of what might very well appear at Aleppo and Damascus to be vitally important Turkish successes (against the Baghdad Railway and the Mediterranean ports), encouraged the Emir Feisul's Government to refuse and resist by arms the use of the Beirut-Aleppo Railway by the French. General Gouraud's ultimatum on this and four other points, dated July 14th, was finally refused acceptance on the 21st. Three days later the French column of ten battalions, eight batteries (with cavalry, etc.) had the good fortune to meet and defeat decisively the whole of the Arab Army (two divisions) at the gates of Damascus—effecting thus the surrender of the railway, the disposition of the Emir Feisul, and the occupation of the Arab capital at one blow.

No such rapid victory and decisive results were possible against the Turks; but on July 27th a column issued from Adana (where 100,000 Armenians were sheltered) and relieved Tarsus after a violent combat. Yenidje was occupied that evening, Tarsus the next day, and Mersine on the 31st, with the capture of 250 prisoners.

General Dufieux now took the opportunity to embark his sick and wounded; and as communication with Mersine would still be liable to interruption, a new base was opened (for the 1st Division) at Karatach, a rather exposed post some thirty-five miles south of Adana. This arrangement, being dependent on the weather, could only be of a temporary character, but for the remainder of the summer it worked well and was of the greatest service, communications with Mersine having the disadvantage of lying to a flank, instead of to the rear of the French main position at Adana.

THE SITUATION RELIEVED.

With the fall of the hostile Arab Government and the occupation of Damascus by General Gouraud, the military situation in Cilicia east of the Amanus assumed an altogether different complexion. Not only was the Beirut-Aleppo Railway now available for the supply of the 2nd and 3rd Divisions, but considerable forces had been set free for service against the Turks, forces that hitherto had to be retained in Syria owing to the unfriendly attitude of the Emir Feisul. The French were now in a position to take the offensive in a more consistent and decisive fashion than had been possible while the Syrian problem was still unsettled.

By the Treaty of Sèvres, Cilicia was to remain a part of the Turkish Empire, and although the important questions of boundaries and guarantees for the Christian populations had to be determined, it was a privileged economical position in the country that France chiefly

aspired to and claimed. General Gouraud, therefore, with a view to pacification, now that his position was a strong one, desired it to be known that Mohammedans of the country, as long as they ceased to oppose the French administration, were entitled to equal liberties, and to an equal voice in public affairs with the Christians. The fall of Damascus had revived hopes among the unfortunate Armenian inhabitants (who had furnished several battalions during the war with Turkey on the side of the Entente) that they might even yet become freed from Turkish misgovernment under French protection. An Armenian Provisional Government was formed and had to be suppressed. It was, in fact, nothing more than a demonstration.

Unfortunately for the Armenians, France was so circumstanced, that not only the evacuation of Cilicia, but peace with Turkey was highly desirable—her financial position alone required it—and became more and more so as German recalcitrance called for firm measures in Europe. Germany, indeed, whether consciously or unconsciously, was able to do her late ally a good turn in this respect.

But before the French policy of peace and evacuation could take shape in any form, the Turks had first to be well beaten and French prestige restored from the Taurus to the Euphrates. Even with the forces the French had now available, this task was none too easy, especially in such difficult country as the Taurus Mountains.

THE FRENCH TAKE THE OFFENSIVE.

In September, General Dufieux surprised the enemy's camp to the north of Adana by a night attack, taking prisoners and guns. But by October it had become urgent to obtain free communication with Mersine, as Karatach, with a rough sea, was now of little use as a base. For this special purpose, therefore, in the first place, and subsequently for the recovery of the initiative and the re-establishment of French prestige throughout the front, General Goubeau (3rd Division) took the field on October 12th, *with ten battalions, several batteries, tanks, armoured cars and thirty aeroplanes*. Starting from Toprak, the railway junction north of Alexandretta (ten miles west of Osmanieh) the column first dealt successfully with the enemy holding positions in the loop of the Djihoun, which river crosses the Baghdad Railway about half-way between Toprak and Adana. Continuing his march to the north of the capital, General Goubeau defeated, on October 23rd, the Turks blockading the Adana-Mersine Railway, taking two guns (German 77 m/m field) and six banners, making many prisoners, including several leaders of bands. As the result of this victory, the blockaders were completely dispersed, at least, for the time being, and their forts and other defences destroyed. The local bands were broken up and the Turkish regulars forced to retreat northwards. The railway was repaired and detachments posted along it so as to keep open the traffic between Mersine and Adana.

Having finished this operation and placed the Sector Dufieux again in a state of reasonable security, although, owing to the close vicinity of the Taurus Mountains and the railway facilities possessed by the

Turks on this flank, there must always be menace of attack as long as the war lasted, the 3rd Division, in November, moved eastwards along the Baghdad Railway, with the object of relieving the situation at Aintab, where, since the twenty days' armistice the town had been in possession of the Kemalists and the French camp partially invested.

It is not altogether clear what occurred at the expiration of the truce (June 20th), but the town had apparently been delivered up as one of the conditions of armistice. Owing, however, to breaches of its conditions by the enemy, the French garrison had remained in its vicinity, in a difficult situation with regard to supplies, and constantly attacked.

In hard winter weather, General Goubeau's column reached the vicinity of Aintab on December 10th, and proceeded to invest the town. The siege lasted almost exactly two calendar months. On February 9th, 1921, General Goubeau's terms were accepted and the town surrendered.

According to the *Journal des Débats*, Kemalist troops had occupied the town in the preceding June in accordance with the terms of the armistice, but for the reasons stated above the French garrison remained in the neighbourhood on the resumption of hostilities. This newspaper report stated that the re-occupation of Aintab by the French, after an imposing ceremony, was confided to troops of the 2nd Division responsible for the sector, the 3rd Division returning to the Toprak-Alexandretta District, having accomplished its allotted tasks.

This division constituted a mobile reserve, strong enough to re-establish French prestige whenever required. The Baghdad Railway was now more or less securely protected and certain towns to the north of it gave no further trouble; but the Adana-Mersine Railway—a parallel line of communication—was always menaced with interruption of traffic.

The military problem in Cilicia was very different to that which General Gouraud had solved in Syria so decisively by his victory before Damascus. In Syria, the Arabs had very kindly united all their available forces for a battle, where, in their rear, a few miles distant, lay the desert. In Cilicia, on the contrary, local partisans, strengthened by Turkish regulars and directed by German-trained officers, had the mountains in their possession, to issue from and retreat into, with five hundred miles of Turkish territory behind them and through railway communications to Angora. The Kemalists could thus, even after their defeats, keep up incessant military activity in the Taurus, necessitating on the part of their opponents heavy expenditure in men and money with no definite results in sight, or apparently attainable.

Under the prime ministership of M. Venizélos, the Greek forces operating against the Turks in the name of the Entente Supreme Council and based on Smyrna, had failed in their attempts against the Adana-Angora Railway, which had they been successful would have greatly assisted General Gouraud. From a Greek point of view, however, the advantages of such a success were doubtful, as the more troops the Kemalists sent to Cilicia the less, naturally, they would have available to oppose the Greeks, and with the advent of King

Constantine, co-operation between Greeks and French was hardly practicable politically. As long, therefore, as Turkey remained at war with France in Cilicia there was no pressing reason why the Greeks should put themselves out in order to cut the Angora-Adana Railway.

But on France making peace with the Turks, the situation became radically different, and a strong inducement arose at once for making this railway a Greek objective, as by cutting it they would isolate in Cilicia what, according to the remarks attributed to General Gouraud at the London Conference, would seem to have been a strong detachment of the best Kemalist troops.

Consequently, towards the end of March, the Greeks resumed their offensive in Anatolia, calling three classes to the Colours. On March 29th they succeeded in occupying Affioun-Kara-Hissar (where a branch from the main line runs to Smyrna) with a detachment, while their principal army marched on Eski-Cheir (junction of the Haidar Pasha Railway with the main line to Angora.)

The occupation of Affioun-Kara-Hissar cut off the Cilicia Turks and prevented them from taking any part in the battle of Eski-Cheir; but this operation, which had it been undertaken a few months earlier, in co-operation with the French, might have had good results, was at this time nothing more than a tactical flank guard movement. Of not much moment, either, because the Greek Army defeated at Eski-Cheir, being forced to give ground and retire to its original positions, Affioun-Kara-Hissar had soon to be evacuated also.

By the Treaty signed in London and ratified by the National Assembly of Angora, proclaiming peace in Cilicia, the Baghdad Railway remains in Turkish territory, although the Turkish Customs cordon is drawn north of it. A French company will continue to work and administer the railway, which the above-mentioned arrangement makes free from Customs duties, the frontier and line of Franco-Syrian posts passing south of it. Aintab and Killis return to Turkish sovereignty, which may or may not be pleasing to the Arabs.¹ At the time of writing very little has been made public with regard to their attitude generally since the fall of Feisul.

Alexandretta is included in Syria. By the terms of the Treaty, a Turkish Gendarmerie is to be formed in Cilicia. With regard to trade and commerce, France has every right to claim a privileged position.

In Syria, French administration, always inclined to become bureaucratic, has organized the country provisionally as follows, but the parliament in Paris will probably insist upon a rapid transfer of powers to local assemblies in order to decrease the expense of this mandate, estimated for the year at something over twenty millions sterling, not including the military charges, apparently, as the vote for the Army of the Levant (1921) amounts to forty millions in addition.

¹ By the Sykes-Picot Agreement and Lord Allenby's apportionment of zones, Aintab and Killis were not included in the French zone. By the terms of the recently revised Treaty, the Turkish Customs cordon is to be drawn now south of the railway apparently.

Syria has been divided into three states and one region.

- i. *The Damascus State.* The Governor, a Syrian, is assisted by a French Mission in the capital, including technicians. The state is sub-divided into three Sandjaks—Damascus, Homs and Hama.
- ii. *The Aleppo State.* The Governor is an Arab, late a general in the Turkish Army. He is assisted by a French Mission. Three Sandjaks—Aleppo, Alexandretta and Deir-el-Zor (on the Euphrates, about 150 miles east-south-east of Aleppo.)
- iii. *The Lebanon State.* This is the largest and the most important of the four sub-divisions of Syria. It is the one in which the majority of the inhabitants is Christian, comprising, however, a multitude of sects, often hostile to each other as is their nature—Maronite (the most numerous), Latin, Greek Orthodox, Greek Catholic, Armenian, Assyro-Chaldean, Syro-Catholic and Protestant. The remainder of the population consists of Jews and certain Mahomedan sects, of which the Druses, a formidable body, have been wisely given a sort of autonomy. Lebanon has four ports—Beirut, Tripoli, Tyre and Sidon. It is divided into four Sandjaks—North, South, Mount Lebanon and Bekaa (a fertile district to the south of the Beirut-Rayak Railway, the hinterland of Sidon.)
- iv. *The Alouite Region.* This district, lying between Latakia and Tripoli, is inhabited by a Mahomedan sect, followers of Ali, son-in-law of the Prophet. It is feudal and backward. There is a French administrator and two Sandjaks—Latakia and Tarsus.

In all four states, each Sandjak has a French Resident Councillor with the necessary, or, as criticised in the French Senate, wholly superfluous European staff.

During the debate on the army estimates on April 9th of this year, M. Barthou, the War Minister, made known some interesting facts in connection with the campaign in Cilicia and the occupation of Syria.

The total number of men transported from France to Beirut since January, 1919, is, in round numbers, 150,000. The number of deaths amount to 155 officers and 3,435 men, and prisoners-of-war 7 officers and 694 men. Auxiliary troops recruited by voluntary enlistment in the country number 4,436.

The two questions which may, it would seem, produce difficulties for our Allies, are the Arab question and, secondly, the fate of the Christians of Cilicia, for whose welfare France would appear to be morally responsible. Both demand a strong attitude for satisfactory settlement.

In the present state of the French finances, depending for equilibrium entirely on German compliance with treaty obligations, the calls of empire are particularly onerous. For some time to come, it is to be feared, Syria, like Morocco, will continue to add her quota to the financial burdens of the Republic.

CIVIL AND MILITARY POWER.

By MAJOR A. W. H. LEES.

THE relations, responsibilities, and duties of the Civil and Military Power, when called upon to suppress disturbances of the public peace, give rise to several delicate points of law which are not always easy of elucidation. The laws of England, the bases on which the right of suppressing disturbances must rest, derive their authority from various sources. Firstly the Common law, the ancient customs of the land or unwritten law, though practically by this time preserved in writing, owing its dominion principally to its antiquity. In the quaint legal phraseology, these laws have been in existence "Time whereof the memory of man runneth not to the contrary." They have been confirmed, varied, or amplified, from time to time, by the decisions of the Judges presiding over the various courts of Justice. Secondly, the Statute Law, or laws expressly created by the power of the legislature, as laid down in the promulgations of Parliament. Disturbances of the peace vary in degree, as do also the severity of the punishments which the law imposes on those convicted of the offence. It is convenient to consider them in the following order:—

- A.—Unlawful assembly.
- B.—Rout.
- C.—Riot.
- D.—Insurrection.

By the Common law, an assembly of three or more persons with intent to commit a crime by force, or to carry out any purpose, either lawful, or unlawful, with some circumstances of actual or apprehended violence sufficient to alarm, not only foolish and timid people, but persons of reasonable firmness and courage, is an unlawful assembly. An assembly may be unlawful, though the object may be lawful, and no violence actually committed. A Chartist meeting at Newport, in 1839, where from three hundred to a thousand persons, many armed with sticks, were excited by orators to commit violence, was held to be an unlawful assembly. Punishment—fine and imprisonment.

If the assembly proceeds to execute its object, it becomes a rout, and if it actually commences to execute its design by a breach of the peace, to the terror of the public, it becomes a riot. Punishment for either rout or riot—fine and imprisonment.

The mere assembly of a crowd is not in itself an unlawful assembly.

Baron Alderson said: "There is no doubt that the people of this country have a perfect right to meet for the purpose of stating what are, or even what they consider to be, their grievances; that right they always have had, and I trust always will have."

If the object of the assembly is not of a private nature, but of

a general or public nature involving an intention to levy war against the King, or even act in defiance of the Government of the country, it becomes an insurrection. Punishment—death.

Baron Alderson says :—

"There is no doubt if you find these persons assembled together by delegates dispersed from any central jurisdiction in this Kingdom, and those persons so meeting together in consequence of a delegation from a central body commit any act of violence for the purpose of carrying into effect any general political purpose, they run the risk of being charged with high treason."

The attention of the Council of Action might be usefully drawn to this charge of Baron Alderson's.

An unlawful assembly may be dispersed by force, although no act of violence has been committed. "A small amount of punishment in the first instance will probably save a great amount of crime afterwards." (Alderson.) (Note General Dyer's case.)

The question next arises how, and by whom, is any or either of these illegal meetings to be dispersed, and what amount of violence may safely be employed in doing so? By the Common law, it is the duty of every subject to suppress such disturbances, which places a law-abiding citizen in a rather invidious position, for if he ignores or neglects the duty imposed upon him by the Common law, he may be indicted for neglect, and if he slays a man in carrying out his duty he may be tried for manslaughter. Even the Common law would not protect a subject who fired a machine gun on an unlawful assembly, though it almost certainly would if he fired it on a mob in insurrection. Practically, at Common law, it is not safe for a citizen to employ any lethal weapon until acts of violence, such as murder, looting, or arson, are being committed.

In order to strengthen the Common law, and protect the loyal subject, the Riot Act I, Geo. I (ST2, c.5), was passed, providing that if twelve persons or more are unlawfully, riotously, and tumultuously gathered together to the disturbance of the public peace, it is the duty of a Justice to go as near to them as he can with safety, and, after commanding silence, to read the Proclamation. "Our Sovereign Lord the King chargeth and commandeth all persons being assembled immediately to disperse themselves, and peaceably to depart to their habitations or to their lawful business, upon the pains contained in the Act made in the first year of King George for preventing tumultuous and riotous assemblies—God save the King!" All persons who remain after an hour has elapsed from the reading are guilty of felony. Punishment—penal servitude for life; imprisonment two years, with or without hard labour. And what is of even greater public interest, at least to the law-abiding public, the Act completely indemnifies the magistrates, officers, soldiers, or citizens, in the event of the death or injury of any of the rioters. So that if a rioter is killed an hour after the reading of the proclamation, his slayer cannot be convicted of murder or manslaughter. This is exemplified in a delightful *Punch* drawing by John Leech at the time of the Chartist movement, where

a terrified and diminutive special constable is shaking a trembling baton at a colossal navvy engaged in rolling up his sleeves.

"Now mind, you know, if I kill you it's nothing, but if you kill me by Jingo it's murder."

During the reading of the Proclamation, the object of the rioters should be to hit the magistrate in the mouth with a stone or other missile, for if he fail to articulate the peroration "God save the King" the Proclamation is invalid. (R. V. Child.)

How the magistrate is to approach a furious mob in safety, is not laid down in the Act. Possibly he would do well to enclose himself in a complete suit of plate armour from the local museum or shout the Proclamation through a megaphone.

Many people are under the impression that the Civil and Military Power cannot intervene until an hour has elapsed from the reading of the Proclamation, but far from this being the case, both the Civil and Military Power are liable to be indicted for neglect under the Common law should they remain idle spectators during the commission of felonious acts by the mob. This misconception has more than once led to extremely grave consequences, notably in the Gordon and Bristol riots. It is probable that the failure of the Civil Power during the former was due to the fact that in 1768 Mr. Gilham, an excellent magistrate, was tried for ordering the military to fire on the mob attacking the prison in St. George's fields. There was long provocation, and he twice read the Proclamation, which was a full defence in his case, and he was acquitted. This was during the Wilkes riots. At the same time, Green, an alehouse keeper, offended the coal-heavers, who attacked his house and lodged over two hundred bullets in it. Green, his maid-servant, and a sailor, defended the house and shot dead eighteen of his assailants. No police or military arrived, the door was eventually forced, but the gallant defenders escaped. Green was tried for murder, but justified by the Common law and acquitted. Seven of the rioters were identified and executed. The coal-heavers in revenge brutally murdered Green's sister. (Walpole.)

The Gordon riots of 1780 were of extreme gravity. The movement was directed ostensibly against the Roman Catholics, but degenerated into an orgy of all the criminal classes of the Metropolis.

On June 2nd from fifty to sixty thousand persons met in St. George's fields, headed by Lord George Gordon, who was hardly responsible for his actions, and marched to Westminster to present a monster petition. They surrounded the Houses of Parliament and grossly abused all Members suspected of Catholic sympathies. Their leader harangued the mob from the gallery stairs, when a near relative, Colonel Gordon, went up to him and said: "My Lord George, do you intend to bring your rascally adherents into the House of Commons? If you do, the first man of them who enters, I will plunge my sword not into him, but into your body."

On the arrival of the Guards the mob dispersed, but proceeded to burn down the Romanist churches, during which thirteen rioters were arrested by the civil power and confined in Newgate. Saturday, the 3rd, passed quietly, but on Sunday all kinds of outrages were in

progress. About 6 p.m. Newgate was stormed, the prisoners released, and the prison burnt. Clerkenwell suffered the same fate, private houses were looted, and Lord Mansfield's mansion destroyed. A detachment of the Guards was present, but did not act, as all the magistrates had run away, and there was a mistaken belief that nothing could be done until an hour after the Riot Act was read, and there was no one to read it.

The Lord Chief Justice in his charge, during the Burdett riots, refers to this in the following words:—"The soldiers stood by with arms in their hands and saw felonies committed, houses burned or pulled down before their eyes by persons who they might properly have put to death if they could not otherwise have prevented them."

A veritable reign of terror ensued. London was on fire in thirty-six places. The Bank of England and the Pay Office were attacked, but successfully defended by a handful of military, while the mob planned, fortunately without success, to cut off the water supply of the City. The Civil Power was afraid to act; and the Lord Mayor Kennet, who kept out of sight, was afterwards indicted for neglect of duty. During his trial he was asked why he did not summon the *posse comitatus*, and ingenuously replied that he "would have done so but did not know where the fellow lived." The King and John Wilkes were among the few people who were not panic stricken. The King held three councils, and it was only at the third that he got Wedderburn, the Attorney-General, to affirm, that as outrages amounting to felonies were in active progress, the reading of the Proclamation was unnecessary; and it was the actual duty of the military to attack the rioters. He added that, in his opinion, "the tumult was rebellious," and it is probably right to class the Gordon riots, not as riots, but as an insurrection, so violent were the words used by the leader. "He would dictate both to the Crown and Parliament." "The King of England was a Papist, but let His Majesty dare to depart from his Coronation oath and his head should fall on the scaffold." (Geo. III. Beccles Wilson.)

The King thereupon ordered the Commander-in-Chief, Amherst, to act drastically without waiting for any warrant from the Civil Power, and on the following day the riots were over. There is a well-known print of the Honourable Artillery Company firing on the mob. The Guards drove the insurgents over Blackfriars Bridge, many being hurled over the parapet, and drowned in the water beneath.

The Northumberland Militia, after a forced march of twenty-five miles, reached Lincoln's Inn fields, and killed many criminals whom they found breaking into and burning houses.

"And raw in fields the rude Militia swarms,
Mouths without hands maintained at vast expense;
In peace a charge, in war a weak defence.
Stout once a month they march a blustering band,
And ever, but at times of need at hand."

Dryden was of course referring to a much earlier Militia, and not to the gallant sons of Northumbria, who arrived so opportunely; and

were practically the first regiment which acted vigorously against the forces of anarchy.

The fields he referred to could not have been those of Lincoln's Inn. The Militia may have been raw as to their feet, after their forced march; and no doubt the rioters considered them very rude indeed. Certainly on this occasion they were very much "at times of need at hand."

Two hundred and eighty-five insurgents are known to have been killed and numbers wounded. The loss of life must have considerably exceeded this figure, as the bodies were in many cases spirited away. There was some comedy to relieve the tragedy. Lord Eldon relates of the Barristers of the Temple: "We youngsters formed ourselves into a troop to assist the military. We armed ourselves as well as we could, and next morning drew up in the court of the Temple ready to follow out a troop of soldiers who were on guard. When, however, they had passed through the gate, it was suddenly shut in our faces, and the officer in command shouted from the other side, 'Gentlemen, I am much obliged to you for your intended assistance, but I do not choose to allow my soldiers to be shot in the back, so I have ordered you to be locked in.'"

After his release, a beggar, meeting Lord George Gordon, exclaimed: "God bless you my Lord, you and I have been in all the prisons in London."

"What do you mean, fellow? I was never in any prison but the Tower!"

"That's true, my Lord, and I've been in all the rest."

A very accurate account of these riots is given by Charles Dickens in *Barnaby Rudge*.

In 1816, a Captain, with his company of the Guards, was sent to defend the Spafields Prison. "On our arrival we found that a troop of Horse Artillery, with their guns, had already taken up their position within the yard. The mob, which was not very numerous on our arrival, had by this time increased to an enormous multitude. Sixty or seventy thousand persons must have been present (Orator Hunt and others addressed the crowd from a cart). More violent and treasonable discourse it was impossible to make; and the huge multitude rent the air with shouts of applause. Several years after this event, at the time of the Reform Bill, Hunt was elected M.P. for Preston. I well recollect, but cannot describe, his amazement when I told him one evening, in the smoking room of the House of Commons, that if any attack had been made on the prison, I had given my men orders to pick off Major Cartright, himself, and one or two more who were in the cart. Hunt was perfectly astonished. 'What, Sir, do you mean to say you would have been capable of such an act of barbarity?' 'Yes,' said I; 'and I almost regret you did not give us the opportunity, for your aim that day was to create a revolution, and you would have richly deserved the fate which you so narrowly escaped by the cowardice or lukewarmness of your 'followers.''" (Gronow.)

In August, 1819, occurred the meeting in St. Peter's fields, Man-

chester, which ended in what is popularly known as the "Peterloo" or Manchester massacre. This is an excellent example of an unlawful assembly, for though the crowd were orderly, this same Orator Hunt was repeating his Spafields performance, and inciting them to rebellion. In order to effect his arrest, the magistrates ordered the Yeomanry to charge the crowd, when 400 persons were killed and wounded. In spite of the chorus of indignation which their action aroused throughout the country, the magistrates were without doubt legally within their rights in dispersing the assembly by force, though it is possible that a different time and place should have been selected for the arrest, as the crowd might have dispersed peaceably, and several more or less innocent people who were only present as spectators lost their lives.

The Bristol riots of 1831 offer one of the most useful precedents for the respective duties of the Civil and Military Power; and an object lesson on how not to quell an *émeute*. The Civil Power proved totally inadequate; and the Military Power was for some time paralyzed and rendered nugatory through the imbecile conduct of the senior officer present. The arrival of Sir Charles Wetherell, Recorder of Bristol, a sturdy opponent of reform, to open the City Sessions was the occasion for a demonstration in which stones were thrown at his carriage and the Mansion House, to which he had retired for the night, surrounded by an angry mob. The opportunity was seized by all the criminal classes in Bristol and the vicinity to convert this demonstration into a terrible riot, nay, into something closely approaching an insurrection. The object of the majority of the malcontents was plunder, accompanied by its usual accessories, murder, house-breaking, and arson, while no doubt a few of the most desperate hoped it was the beginning of a revolution. On Saturday, 29th October, 1831, the constables guarding the Mansion House kept the crowd at bay and effected several arrests, the prisoners being lodged in gaol and only windows were broken.

A squadron of the 14th Light Dragoons and a weak troop of the 3rd Dragoon Guards, perhaps in all 150 men, were available to support the Civil Power under Colonel Brereton, commanding the District. During the afternoon affairs assumed a more serious aspect, large numbers of colliers having marched in from the neighbouring districts. Most of the constables were withdrawn in order to obtain some refreshment; and the mob broke into the Mansion House and prepared to set it on fire, while Sir Charles Wetherell and His Worship the Mayor, a certain Mr. Pinney, made an undignified but necessary retreat over some neighbouring roofs, barely escaping with their lives. The cavalry were ordered out, but remained passive spectators of the outrage, incendiary, and looting, which ensued, no magistrate being forthcoming, and Colonel Brereton refusing to act in his absence, though he made a personal appeal to the crowd to disperse. The troops, who were on duty all night, and subjected to considerable violence and abuse, were withdrawn to their billets in the morning. The Doddington Yeomanry rode in, and their Commanding Officer reported himself to Colonel Brereton, but as no arrangements had been made to billet the men, or find forage

for the horses, and Colonel Brereton would give them no orders, they all went home again.

After a period of comparative calm, rioting was renewed on Sunday with increased violence. The Mansion House cellars, containing three hundred dozen of wine, were emptied, and an orgy of drunkenness followed, the iron railings were torn up to add to the weapons in the hands of the people, and, finally, the building was burnt to the ground, many of the rioters perishing in the falling ruins when the roof suddenly collapsed. The 14th Light Dragoons, who had been again ordered out, were subjected to a continual bombardment of stones, bottles, and large pieces of iron, by which several men and horses were seriously injured. The Mayor would not allow the military to fire, though he suggested that they should clear the streets. Colonel Brereton, on his part, refused to order a charge, saying that the troops could "walk the mob off," and he partially did so by pushing his horsemen among the people. When the rioters, as was to be expected, quickly returned and displayed even greater violence, he at last ordered the cavalry to charge, using only the flat of their sabres, but countermanded the order before it came to maturity, and withdrew the troops altogether, leaving the rioters in possession of the field of battle.

Another mob was by this time endeavouring to break into the Council House, a very fine building where the other troop of the 14th, under Captain Gage, was on detached duty. This officer, whose men were subjected to most brutal assaults, acted with promptitude, firmness, and decision, ordering two or three troopers to fire their pistols; one rioter was killed, the rest dispersed and the Council House saved. Colonel Brereton had retired to his headquarters, where he was engaged in a lengthy and acrimonious discussion with the Mayor, Town Clerk, and magistrates, who begged him to clear the streets. This he declined to do, and was asked by the Town Clerk whether he had received orders from Horse Guards to disobey the magistrates? Replying in the negative, he added that he himself would be responsible and the crowd would disperse. He appears to have been much distressed when news reached him of the demise of the rioter shot at the Council House, and mounting his horse rode off to again essay the gentle art of persuasion. He was received with loud cheers, to which, from the point of view of the criminal classes, he was fully entitled, and waved his hat in polite rejoinder. The crowd clamoured for the removal of the "bloody 14th," and, after shaking hands with several of his admirers, he promised there should be no more firing and that the 14th should be withdrawn. There is no space to reproduce his address, but the gist of it was that if the rioters were good children and went home to bed, the naughty soldiers should be packed off.

This naturally gave the law breakers the impression that he was in sympathy with them. He then returned to the Civil Power and reported that the crowd were "in a thoroughly good temper." As to whether this is attributable to the 3,600 bottles of wine consumed by the thirsty, history is silent. Opportunely, at this moment, several soldiers and constables were carried into headquarters dangerously wounded, and one of the former produced a piece of iron weighing

three or four pounds which had been thrown at his head. The Town Clerk asked Colonel Brereton if "this was a proof of the good temper of the mob," and urged that the military should act immediately and vigorously. The Colonel objected that the men and horses were tired out, and their lives would be endangered if they remained. The Town Clerk then asked "If that was a sufficient reason for a military officer to send away the troops?" as he understood they had been sent to protect the City. Whereupon Colonel Brereton departed to interview his too active subordinate, Captain Gage, whom he found with his men, and informed the Captain he was to leave Bristol at once. That officer naturally asked "why he was to leave?" when the following conversation ensued:—Colonel Brereton: "Captain Gage, you will march your squadron immediately out of Bristol; if you do not, the whole squadron will be murdered. For God's sake, Captain Gage, will you get out of the town?" Captain Gage: "Where are we to go?" Colonel Brereton: "Anywhere you please, only go away!"

As it was impossible for Captain Gage to disobey a direct order from his superior officer, he mounted his men and rode off, remaining himself at the rear of the squadron, and followed by a howling mob hurling abuse, and more material matter, at the crestfallen warriors. At last, a horse came down, and a crowd of russians rushed to attack the prostrate trooper, when the officer with two men rode back, shot the most truculent rioter and saved the injured man's life.

Having, for the time being, disposed of the 14th Light Dragoons, let us return to the City defended by twenty-five men of the 3rd Dragoon Guards and fourteen men of the Bedminster Yeomanry, who, by the way, did yeoman service. Colonel Brereton, placing himself at the head of the Dragoon Guards, paraded the streets until the close proximity of the forces of disorder again suggested to him the advisability of a strategical movement to the rear, when he retired to bed. Mr. Langdale's brewery was next broken into, fired, and fifty puncheons of rum flooded the gutters. Plunder and incendiaryism increased, private houses were forced and terrified families dragged into the streets and subjected to violence and outrage. News was brought that the principal gaol was attacked, and the magistrates implored Colonel Brereton to send assistance. He ordered a young Cornet, a mere boy, to lead his dauntless twenty-five to the rescue, but on the young officer asking if he was to fire on the people, he was told that on no account must there be any violence. He at once asked what he was to do when he got there, and was told by the Colonel that he was "to come back again."

This military promenade having been successfully accomplished, the gaol, which was surrounded by 12,000 rioters, was forced and burnt. Two other prisons suffered the same fate, and all the criminals were let loose in the City. By 3 a.m. on Monday, forty-two private houses and warehouses were in flames, the public houses all emptied of their contents, and plunder and the grossest sensuality the occupation of the mob, who are described as "abandoned miscreants, not working men." The Mayor at last issued a Proclamation, calling on all loyal citizens to arm themselves and assist in restoring order, but considering the

example set by the military, it is not surprising that at first there was no very hearty response to his appeal. Later, when it was obvious that no one's life was safe and the whole city likely to be destroyed, the civilians came forward, and many displayed praiseworthy courage. On Monday, after a night of terror, Colonel Brereton, who was told by the Town Clerk that if no one else would represent his conduct to the authorities, he, the Town Clerk, would, recalled the 14th Light Dragoons, and the following instructions were written and signed by the Mayor: "You are hereby authorized to disperse any mob which may assemble in this city in a riotous or tumultuous manner in disturbance of the public peace."

The cavalry then acted with resolution, doubtless very glad of the opportunity. The Dragoon Guards (twenty-five men) charged a mob of a thousand rioters, and routed them, killing and wounding 120, one Dragoon was shot dead, for the mob had some firearms. The 14th Light Dragoons killed and wounded about 250, so that over four hundred persons were disposed of by the military, while a considerable number were burnt alive in the Mansion House and other buildings, or died of drink in the streets.

Half Queen Street, part of Princes Street, King Street, with fifty houses, the Customs House, Excise Office, warehouses, stores, three prisons, and the Bishop's Palace were destroyed. Some time on Monday one hundred and seventy men of the 11th Foot arrived, and the public peace was restored. It is a disputed point whether the Riot Act was read for some very considerable time, though the Mayor asserted that it was, but in any case it was clearly the duty of the senior military officer present to have suppressed the outbreak by force of arms as soon as acts of violence amounting to felonies had occurred, and this under the Common law he was fully entitled to do.

The summons from the Mayor to civilians is clearly upheld in the charge of Chief Justice Tindal (R. V. Pinney).

"Every magistrate, sheriff, constable, and other peace officer is required to do all that in him lies for the suppression of a riot, and each has authority to command all other subjects of the Queen to assist him in that undertaking. Every man is bound, when so called upon, to yield a ready and implicit obedience, and do his utmost to assist in suppressing any tumultuous assembly." The arming of civilians is also supported by the same learned judge. "If the riot be general and dangerous, every subject may arm himself against the evil-doers to keep the peace; such was the opinion of all the Judges of England in the time of Queen Elizabeth. . . . If the occasion requires immediate action, and no opportunity is given for procuring the advice or sanction of the magistrate, it is the duty of every subject to act for himself, and upon his own responsibility, in suppressing a riotous and tumultuous assembly; and he may be assured that whatever is honestly done by him in the execution of that object will be supported and justified by the Common law." The use of firearms is even more strongly upheld by the Chief Justice in the case of a citizen, who firing a pistol at one of the Bristol rioters, unfortunately killed a boy and was indicted for manslaughter. "If the firing of the pistol by Lewis was a rash act,

uncalled for by the occasion, or if it was discharged negligently and carelessly, the offence would amount to manslaughter, but if it was discharged in the fair and honest execution of his duty, in endeavouring to disperse the mob, by reason of their resisting, the act of firing the pistol was then an act justified by the occasion, under the Riot Act before referred to, and the killing of the boy would then amount to accidental death only, and not to the offence of manslaughter."

The sequel of the events described was the trial by General Court Martial of the unhappy Colonel Brereton, on several serious charges, which may be summarized as "Neglect of duty and temporizing with the mob to the prejudice of good order and military discipline."

Of course, if the poor Colonel had been living to-day he might have pleaded in his defence that not only Colonels, but bigger people, temporized and shook hands with murderers and their accomplices. All that can be said for that unfortunate officer is to record that he was a humane, and amiable man, and much esteemed in his private life, but totally unfitted by temperament for the responsible position in which circumstances placed him. The trial came to an abrupt conclusion, for on the third day, Colonel Brereton shot himself through the heart.

The Mayor, Mr. Pinney, was afterwards indicted for neglect of duty as chief magistrate, and it was laid down that mere honesty of purpose was not a sufficient excuse for failure to take action, nor was the fear of bodily injury, but it was not a magistrate's duty to head the special constables, or to arrange or marshal them, which is the duty of the Chief Constable. Like W. S. Gilbert's "Duke of Plaza Toro," Mr. Pinney "led his regiment from behind; he found it less exciting."

After the pusillanimity of Pinney, it is refreshing to hear of a magistrate who faced his difficulties with superb courage, Mr. Phillips, Mayor of Newport in Wales. In 1839, Frost, a magistrate, led between five and six thousand Chartists armed with guns, bludgeons, pikes, and axes, on Newport, with the avowed intention of seizing the town by force. The Mayor, with the constables and about thirty soldiers, was occupying an inn, when the mob arrived and demanded his surrender.

He faced them at one of the windows and refused, upon which they fired upon him, and he and several others were wounded. The troops returned the fire with deadly effect, following this up with a bayonet charge which scattered the riotous multitude in all directions.

The Rebecca riots, which had for their original object the destruction of turnpikes, were easily suppressed by the Civil Power, with the aid of a large body of troops, who were only seriously engaged on one occasion, but the disturbance caused such a panic that a coroner's jury, summoned to investigate the death of a poor old woman, foully murdered by the rioters deliberately shooting her, brought in the verdict that "she died from suffusion of blood which produced suffocation."

The Yeomanry were constantly called in to support the Civil Power, and in the Napoleonic period the Volunteers also rendered good service, but the Volunteer force of the Sixties was expressly debarred

from aiding the Civil Power as a military body, and the Labour Party have succeeded in extending this disability to the Territorial Army. Perhaps this verbal distinction is not of such vital importance as the Labour Party seem to imagine, for by the English law a soldier always remains a citizen, and the officers and men of the Regular Army possess no more power, and suffer no more liabilities, and are in no way secured from the consequences of any act they may commit, than armed civilians, which in the eyes of the law they are. But there is nothing in the law to prevent soldiers, acting as armed civilians, from making use of the discipline, and training, which render them, though vastly inferior in numbers, the masters of any armed mob. The projected attempt by the Fenians to seize Tynemouth Castle, and the large store of arms it contained, was frustrated by the Commanding Officer of the local Volunteers, who, well knowing that the Regulations forbade him calling out his men in aid of the Civil Power, was brilliantly inspired to order a parade, within the Castle walls, for purposes of drill instruction. He was quite within his rights, and the Fenians, learning that the Castle was strongly held by a military force, dispersed with their treasonable object unattained. A very difficult point is to ascertain what degree of force may be safely and legally used by the Military Power, or by armed civilians, in quelling a disturbance. This is governed by the custom or common law of the land, and it was laid down in the enquiry into the Featherstone Colliery riots, in 1893, that "Firing, to be lawful, must be necessary to stop or prevent such serious and violent crime as we have alluded to, and it must be conducted without recklessness or negligence. When the need is clear, the soldiers' duty is to fire with all reasonable caution, so as to produce no further injury than what is absolutely wanted for the purpose of protecting person and property."

A considerable portion of the English Press condemned General Dyer for using unnecessary force, completely ignoring the fact that he was not acting under the Common or Statute law, for Martial Law had been proclaimed, was actually in being and, consequently, he was under no legal restraint as to the amount of force he might choose to employ.

There is often confusion in the public mind as to the meaning of the terms "military" and "martial law." Military law simply deals with the government of soldiers, as soldiers, and apart from civilians. Martial law, when duly proclaimed, is no law at all, save the will of the officer who is administering it. It supersedes all Civil law, and the senior officer can do exactly what he pleases. Yet it is legal, for all Princes, Governments, and States, have a right to proclaim it in emergencies, such as war, or rebellion.

Martial Law has never been proclaimed in England, but it has in Ireland, and some of our Colonies, and the custom has been in the event of insurrection, to hand over rebels to the Civil power for trial and punishment; but a General is under no legal obligation to do so. Once Martial Law is in force he could, if he liked, shoot his prisoners at sight, without any trial whatsoever, as was done during the French commune, where communists were caught red-handed.

The suppression of a very serious riot in Quebec, by General Bland Strange, is a good example of a minimum degree of force successfully, and tactfully, employed. In his own words: "It was my habit when ordered on civil disturbance to fix bayonets before leaving barracks, with the treble object of keeping the fire low from the weight on the muzzle, producing the salutary effect on the mob which steel always does, and cheating the penny-a-liner of the opportunity of writing: 'At this point the blood-thirsty officer lost his head and ordered his men to fix bayonets and charge an inoffensive crowd.' Bayonets being fixed, the advance of the men by sections with trailea arms had all the effect of a charge, without any of the inconvenience of giving such an order. The men, who had long been exposed to the taunts and assaults of the mob, broke into a double, and the rioters fled before them, seeking refuge down lanes and in doorways, whence they emerged as soon as the retire was sounded. The Commanding Officer was afraid of getting his men out of hand and had hitherto refrained from opening fire for fear of injuring foolish spectators. He had long noticed the ringleader. 'Come on' he had been shouting: 'They are falling back! I know the bugle! We will crush them: they have been forbidden to fire!' I halted the rear section of eight men and opened fire. Half-a-dozen men and a cab horse dropped."

No less an authority than the late W. S. Gilbert has affirmed that "The law is the true embodiment of everything that's excellent. It has no kind of fault or flaw." Nevertheless, it is perhaps surprising what care the English law appears to take of the lives of evil doers.

Why should soldiers and police, who are only doing their duty, be expected to stand inactive for a long time exposed to showers of bricks, stones, and glass bottles, and receiving grievous bodily injuries, before they are allowed to kill a few of their assailants? What is the value to the State of the lives of men who are, for example, looting or burning houses? Why should they not forfeit their lives if they refuse to return home? Of course there is something to be said for the stringency of the law, for an unscrupulous debtor might welcome the opportunity afforded by a public disturbance to walk about with a shotgun patriotically reducing the number of his creditors, quite irrespective of whether they were actual participants in the riot.

Really a soldier or armed civilian is in a rather unhappy position. During the Dock riots in London, an officer of the Guards was sent with a convoy of ammunition to the Tower, and surrounded on the way by a furious mob intent on overpowering the escort over the wagons. Several soldiers were seriously injured. He himself was struck on the back of the neck by a brick, and only the thickness of his bear-skin cap which came very low in the collar, saved his life. A rioter endeavoured to seize his horse and drag him from the saddle. He made his horse rear up, and it brought its fore feet down on the ruffian's head, which temporarily disposed of him. The officer did not allow a shot to be fired, yet brought his convoy through in safety. Sad to relate, he was severely reprimanded for fixing bayonets, but what would have been his fate had he allowed the rioters to capture all his ammunition? He would assuredly have been tried by Court Martial.

With reference to the insurrection lately in progress in Ireland, it has been stated several times in the Press that the troops fired over the heads of the crowd, a most pernicious practice, for it gives the insurgents the impression that the soldiers are in sympathy with them and do not mean to act seriously. It also increases the chance of killing innocent or comparatively harmless persons in the background.

Paragraph 960, King's Regulations, states that "An officer commanding troops, on every occasion when employed in the suppression of riots or the enforcement of the law, will take the most effectual means in conjunction with the magistrates for explaining beforehand to the people that in the event of the troops being ordered to fire, their fire will be effective." and paragraph 965: "Care will be taken not to fire on persons separated from the crowd. To fire over the heads of a crowd has the effect of favouring the most daring and guilty and of sacrificing the less daring and even the innocent." It is unfortunate if these regulations have been relaxed, for it will tend to increase the eventual loss of life if it becomes popularly supposed that troops will fire in the air.

It may be gathered from this article that it is *not* advisable to employ military power armed with deadly weapons in order to disperse an unlawful assembly, save in most exceptional circumstances. That it is advisable to employ military power in the event of a really serious riot, accompanied by felonious acts, but not to kill more people than necessary; and that it is a *duty* to employ military power at once, without hesitation, and ruthlessly in the event of an armed insurrection.

We have now passed in review the various degrees of public disturbance and studied actual examples of the action taken, rightly or wrongly, by the Civil and Military Power to preserve the public peace on such occasions as the unlawful assembly at Manchester, the riots in Bristol, and the insurrection of Lord George Gordon.



BATTLE SUPPLY.

By BREVET MAJOR O. W. WHITE, D.S.O., The Dorset Regiment.

IN battle, as differing from all other periods of a soldier's career, all he needs must be actually handed over to him. He must never have to turn back to fetch his ammunitions, his food or the materials required to enable him to hold what he has taken or further advance.

The principle is clearly laid down in Field Service Regulations II, Section 181 (1) as regards ammunition. It might profitably be more generally referred to when references are made to every kind of supply. Now the great difficulty that all arms labour under, starting with the staff and ending with the man in the ranks or with his gun in the battery firing line, is that this supply is less practised than any other form of training in time of peace, and therefore has largely to be learnt in war, and owing to casualties not as consecutively improved as one would wish. The main reason why it is not practised is obvious. No civil finance authority is going to pass the extra cost required for stores—ammunition and material which are merely to be used for practising supplying the soldier in battle—not teaching him to fight, merely teaching a portion of the army how to ensure that the fighting man will be sustained in the fight. Then, again, even assuming one could practise with "tokens" representing various supplies and stores, the actual time available on training parades, allowing for the hours spent going to and return from the training area, is too limited to really carry out useful practice. What, therefore, can be done to improve the situation?

It is not the Staff Officer who is first affected. He has either the Staff College or considerable experience in the field behind him; it is the Regimental Officer, Transport Officer, Quartermaster or officer detailed in charge of a party conveying battle stores forward who wants assistance and instruction. It is comparatively easy for Division or Corps "Q" to arrange for certain stores or ammunition to be at a certain place at a certain time, and even arrange a unit time table for parties drawing the same. It is not half so easy for the Staff Captain or the Regimental Officer to get the articles actually up to the man who needs them, and however much "Q" Staff Officers visit the line whilst the battle is in progress they are not ubiquitous. "Q" tactics are often far harder than "Q" strategy if one may use these expressions.

It is submitted that this paper affords one solution.

First is given certain data and examples as to what facilities we have and improvements we may expect in dealing with this subject in war. Secondly, a suggestion is made as to how instruction and practice

in these problems may profitably be given without entailing a serious expenditure or interfering with training to fight

It is taken as an " axiom " in this paper that, however mechanical war becomes, and however much controversy rages as to the rôle of the new arms and armaments, it will be many, very many years before the " horse, foot and guns " operating in the open field will cease to be a decisive factor. Experiment, thought and research are essential to future improvement, but in war and in preparation for war, it is also absolutely necessary to be armed for the present.

REQUIREMENTS AND EXAMPLES.

Shortly, what is required by the soldier in battle?

1. Ammunition.
2. Water.
3. Food. Battles rarely last less than several days under modern conditions, and the man's carrying power and human nature limit what food can be carried for future consumption.
4. Engineer stores and tools. The entrenching implement is an excellent tool, but something more is required to consolidate with. Wire for obstacles is certain to be required.

To supply these needs all units have certain transport allotted. It is adequate for the normal needs as visualized and carefully thought out before the late War, but it is submitted can be improved in certain details, which will be touched on later. Basing the assumptions on the teachings of the late War arrangements were, subject to minor differences in divisions, as follows :—

The unit transport when a division was in touch with the enemy was normally subdivided into " A " and " B " echelons. " A " echelon or fighting transport under brigade or unit control consisted of :—

Brigade Headquarters.

1 L.G.S. wagon. Signals. Such riders and chargers as were required.

2 G.S. wagons. Tools, if ordered up by O.C. brigade.

Each Infantry Battalion.

All L.G.S. wagons for S.A.A.

All L.G.S. wagons for grenades.

All L.G.S. wagons for Lewis guns.

All L.G.S. wagons for tools.

Such pack horses and riders as the division ordered.

1 Water cart.

2 Cookers.

1 Mess cart.

If required by O.C. brigade.

Machine-Gun Battalion.

2 L.G.S. wagons per section for machine guns—32.

1 L.G.S. wagon to every section for S.A.A.—8.

Riders as required.

Field Company, R.E. (if their transport is subdivided).

- 8 Tool carts.
- 4 Pack animals.
- Riders as required.

The whole of the rest of the unit transport was echelon "B" and moved, was accommodated, and halted when necessary, by Division "Q." Control of these subdivisions of the transport was arranged as below:—

"A" Echelon.—Each unit maintained an orderly, mounted if possible, wherever the staff captain of the brigade was. Sometimes this officer had, owing to limited accommodation, to be left out of advanced Brigade Headquarters. In this case he lived with "A" echelon. He cannot "pull his weight" if further back than this.

"B" Echelon.—This was commanded by the Brigade Transport Officer or specially-detailed officer. He reported daily at Division Headquarters and saw the "Q" officer there. In addition two mounted or cyclist orderlies changed daily, so that they always knew where "B" echelon was, lived at Division Headquarters with the signallers.

"A" echelon must always keep at least one orderly or cyclist with "B" echelon. After all large moves they must be changed so that "B" echelon will always have the latest information of its advanced echelon's position. If the movements are very slow, this orderly duty can be organized on the time basis and used for "D.R." work as well.

"B" echelon similarly will maintain and change an orderly with "A."

As regards infantry ammunition, if possible (considering watering difficulties, cover, etc.), "Q" will always maintain an advanced section of the S.A.A. Divisional Supply within easy reach of "A" echelon. This advanced section will interchange orderlies with its main body in similar way to "A" and "B" echelons. Also as "B" echelon keeping touch with advanced Division Headquarters. Under the new organization of the train companies carrying S.A.A., this will be very necessary and require forethought and arrangement, as otherwise the S.A.A. supply is likely to be pushed off into side roads with the rest of the divisional train. During battle all infantry ammunition vehicles of the train should be collected and move and halt under orders from Division "Q" direct.

Now this transport is adequate for all requirements except:—

- (a) Consolidation stores.
- (b) Water for the animals with "A" echelon. Battles are often, and always will be, frequently fought where there are no facilities for watering animals near the combat.
- (c) Facilities for improving the issue of water to the fighting man.

It is suggested, to compete with the above:—

Consolidation Stores.

- (a) (1) Each battalion and equivalent unit should be equipped with two spare L.G.S. wagons, equipped with "hay cart" movable sides.

This would enable bulky material, like concertina wire, to be carried in loads proportionate to its bulk. In each unit one of these wagons would be in "B" echelon and form a pool from which the division could allot transport for "battle store" purposes according to the situation. (2) Each battalion or equivalent unit should be equipped with a proportion of "carriers" to fit on pack saddles to enable barbed wire in rolls or concertina, extra picks and shovels, screw iron or wooden stakes to be carried by the pack animals. There were any number of regimental devices in use in France for this purpose which were satisfactory.

The essential is some form of iron bar, loop or hook which is permanently fixed to the saddle and can be used when required.

(b) *Water for Animals.* Firstly, all wagons L.G.S. and G.S. of all echelons should permanently carry at least two gallons of water per horse in carriers fixed to the vehicle. The petrol tin used in France is an excellent shape and size. By training, drivers must be taught to regard this as their animals' emergency ration, always to be kept ready but only issued under orders of a responsible authority. This is not enough, however. In a hotly-contested battle, especially one that is moving, the chances of properly watering the horses in the fighting echelon, close up to the battle, perhaps harassed by enemy aircraft and certainly in constant readiness, to meet demands is very small. Water, therefore, must be sent up to the horses if they are to stand the work. Their rations will come up at night, and there will nearly always be a very little limited grazing, but water they must have. Apropos of grazing it is perhaps well to refer to the necessity for preventing horses grazing or nibbling at branches in areas which have been subjected, even very slightly, to certain gasses. Mustard gas, for example, will linger in bushes or even in long grass for a considerable period.

During the summer of 1918 "A" echelons in the 5th Division were supplied practically entirely by light water lorries and G.S. wagons, the body of which had been lined with the wagon cover supported on the spare pole run from front to rear secured to the driving seat. These are makeshifts.

It is suggested that each Brigade Headquarters on mobilization be equipped with two 200-gallon tank wagons each with a pump simply for supplying water for the horses or, alternatively and not so really useful, that the wagon covers be slightly altered in design so that they can be readily and easily laced into the wagon body to be used as a water carrier or "mussack."

There are many arguments against this, of course, but even the cheapest horse is an expensive animal by the time it has reached its unit in war, and also the success of a decisive battle may well depend on the ability of the fighting transport to supply the fighting man with his needs. Shortage of water weakens a horse quicker than anything else.

(c) *Water for the Fighting Troops.*—Fighting even in winter is horribly thirsty work. The water bottle the man carries, even with the best water discipline, is soon emptied.

Behind that there are only the two battalion water carts, and they may or may not be with "A" echelon, or, in any case, make rare appearance, cannot get near the front line, and even when they do filling water bottles is a long job.

The following plan, on which a suggestion is based, was tried and worked well all through the hottest months of 1918, and in fact was so satisfactory that units stuck to it even when, with colder and damper weather, the need for water was not so great.

Each water cart was issued with one 100-gallon tank. This was taken empty as far forward as possible, generally near Battalion Headquarters. The water carts filled these, issued the remainder of the water, and when time permitted went straight back to a rendezvous arranged by "Q," where they met a water lorry, refilled, and went up again. In any case, whether they made a second trip or not, there was a small water reserve under control available right forward, and the carts were not kept hanging about in exposed areas. C.O.'s were strongly in favour of this plan. When a move forward was made the empty tanks were carried to the next Battalion Headquarters by some vehicle from "A" echelon, and was ready to receive water when the water carts next came up.

It is suggested, therefore, that each water cart should be permanently fitted with a collapsible tank to hold 100 gallons. Tank to have a tap and also a fixed syphon for use when no raised stand can be improvised.

Having considered *unit* arrangements and improvisations, one must now consider auxiliaries authorized and supplied by higher authority.

Those available to help the fighting man are:—

- (a) M.T. to help his transport for stores or water and to bring up his comforts when he is relieved in the line. No special comments on these are required, as their loads are always known or given, and they do not go actually into the fight.
- (b) Tanks. Carrier tanks.
- (c) Aeroplanes.

As regards (b) and (c). During the operations in the summer and autumn of 1918 the 5th Division was fortunate in having the assistance of three old G.C. tanks (or, rather, I think two G.C. and one supply); these were, as long as their engines held out, absolutely invaluable. None appreciated this fact more than "Q," but at the same time the artillery and infantry were not behindhand in expressing their appreciation at the assistance and, in fact, in one or two phases, the dominating rôle played by these machines in "battle supply" work.

Tanks are expensive to run, however, and battalions and batteries probably will not see much of this side of the tanks' activities in peace training.

Field Service Regulations II, Section 187 (8), refers to the use of tanks for ammunition supply.

Tank Loads with Infantry.

1. Wire, barbed, 100 coils, small.	For an attack entailing immediate consolidation.
Screw pickets, 500.	
Picks, 200.	For an attack where temporary consolidation and certain strong points were required.
Shovels, 400.	
T.M.C., 240.	
S.A.A., 15 boxes.	
V.P.A., 4 boxes.	
2. Shovels, 300.	For an attack where temporary consolidation and certain strong points were required.
Picks, 250.	
S.A.A., 60, bandolier packed.	
S.A.A., 30, M.G. packed.	
T.M.C., 90 boxes.	(A heavy load.)
Water, 50 petrol tins (100 gallons).	
3. <i>With Artillery.</i>	(A heavy load.)
225 Rounds 6-in. howitzer.	
4. <i>With Artillery.</i>	(A heavy load.)
500 Rounds, 18-pounder.	
200 Rounds, 45 howitzer.	
5. <i>For Consolidation only.</i>	(A heavy load.)
2,000 Sandbags.	
350 Large coils barbed wire.	
100 Screw pickets, long.	
200 Screw pickets, short.	
6. <i>For 6-in. (Newton) T.M.</i>	(A heavy load.)
2 Tanks can carry battery of T.M.'s complete, and 150 rounds of ammunition. (From a specimen load table. Not tested personally.)	
7. <i>Mixed Load</i> used by Australians. Not tested personally.	(A heavy load.)
20 Boxes rifle grenades.	
10 Boxes hand grenades.	
5 Boxes S.A.A. (bandolier and M.G. packed).	
3 Boxes V.P.A.	
8 Boxes T.M.C.	
50 Picks.	
6 Shovels.	
10 Coils wire.	
60 Petrol tins water.	
6 Boxes biscuit.	
4 Boxes bully beef.	
2 Boxes groceries.	

Load tables which have been used are given above. Tanks should be loaded as far forward as lorries can go and given a rendezvous where they will meet the Staff Captain, or other officer, who the tank commander should know personally and have met and discussed the orders with.

At this point they should be unloaded or directed to another unloading place. If another place, the Staff Captain or officer meeting the tanks should accompany them there. An unloading party must be provided, and the tanks allowed to return to their "base" directly they are unloaded. Supply tanks must never be kept hanging about in an exposed position—they draw fire. On reaching their base they should reload with that portion of their loads, which is always required—i.e., tanks with infantry should always load the proportion of S.A.A. and trench mortar ammunition before the crews turn in. Extras such as rations, water, consolidation stores, are varied as occasion requires, and will not take long to complete, but ammunition is certain to be always needed.

Tanks may either be allotted to brigades for a definite operation or kept under Divisional "Q" control. It depends largely on the number of tanks available and the personality of the senior officers concerned. There is no doubt however that, all other essentials being equal, they are better operated by Division "Q" than when detached to brigades. If they are under "Q" they give the Divisional Commander a mobile reserve of armoured munition carrying vehicles which may be of the utmost use to him and vitally affect his plans.

Aeroplanes.—These from a "battle supply" point of view are only for dropping S.A.A. by parachute.

The planes we had in 1918 could only drop two boxes at a time, and would guarantee to do so at any given place within twenty minutes of the call being received at the Squadron.

The Australian Corps who first used this means extensively used them solely for dropping to machine guns who put out a "V" as a dropping sign.

The 5th Division used the two planes allotted by the 59th Squadron R.A.F. differently.

From the machines available and the limit of two boxes per machine per trip, it was accepted this supply could only be used in case of urgent need, and not for haphazard calls or machine guns only.

Accordingly orders were issued, and concurred in, by the Squadron that except where they saw a counter-attack, or got a "V" sign from machine guns *in action*, no ammunition would be dropped except by an express request from Division "Q" by phone or signal message.

This plan worked satisfactorily. The normal supply by "A" echelon met the demands of the advance. Against counter-attacks assistance was given by demands on the Air Force.

To enable "Q" to keep constantly in touch it was arranged that the C.R.A.'s Headquarters let "Q" know immediately of an S.O.S. If the C.R.A. said it was confirmed by an F.O.O. or from the sound of firing it was obviously a serious affair, "Q" at once got through to the Squadron and asked for ammunition. By this means ammunition was often dropped before the pigeon message, the normal means, had reported the situation. The "V" sign was rarely used, as the arrangements indicated above met the case. Ammunition dropped was all

"bundle" packed as this was available at the aerodromes without special arrangement.

Certain data has been given above as to what units can carry, what assistance they may expect, and certain suggestions.

Now as to how these means are utilized by the actual officers "delivering the goods" to the fighting man and what knowledge these officers must posses. Starting from Brigade Headquarters first comes the :—

Staff Captain.—He must know where his units are and what is the situation as far as possible. He should without unduly worrying the Brigade Major be absolutely in his pocket till the time comes for him to act. He must study the air photographs of the enemy's country continually, so as to know what kind of country he is sending his supplies over and where to look out for difficulties for transport. If he moves he must ensure Division "Q" know where he has gone. He must not go back and see them during battle; however, it is their place to send up or come up and see how he is getting on. His visits and tours must be in a forward direction during action. He must instruct and keep up to date his brigade and unit Transport Officers. He must see that battalions have good Transport Officers. He must explain and see that Transport Officers have proper and up-to-date maps and air photos of enemy country he is advancing or about to advance over. This is especially important in a long-drawn-out battle, whether in position warfare or not.

He must check the battalion arrangements for meeting and guiding their ration and supply parties. He must make personally sure that the rations, etc., get to the actual man in the ranks. He must by every means see no one who is fighting runs out of ammunition. It is better to send up a little too soon than to find a counter-attack in full swing and appeals for ammunition coming in. He must know where he has sent ammunition and how much, look out for it on his walks round, so that he may be able to get it in emergency if other means fail.

He must be constantly in touch with the arrangements made by Quartermasters and Transport Officers as to guides and meeting places for everything coming up from behind. He must read Divisional Orders and administrative instructions properly, and if he does not understand, ask at once and not trust to luck.

He must know what is really wanted and not be bluffed by old soldiers (Quartermasters or Transport Officers). Knowing what is wanted he must be prepared to tell Division "Q" plainly and firmly what is required and what is not, at any time, and stick to it, and lastly he must be prepared to help other Staff Captains, even at trouble to himself.

(If he is all this, however, he will be snatched up to Division Headquarters just when his Brigadier most wants him.)

The Brigade Transport Officer.

He must visit Division "Q" daily and find out the latest situation. He must take all routine work off the Staff Captain's back as

long as his brigade is in the battle, if there is not a definitely attached learner. He must see all his animals are in the best condition possible. He must know the map so well that he can lead "B" echelon anywhere, even right forward, if a big advance is made.

He must know air photographs well so as to decide how best to get his echelon up to the units when required in fought-over country.

He should be fitted to temporarily succeed the Staff Captain if the latter becomes a casualty, at a moment's notice.

The Battalion Transport Officer and Quartermaster.

Everyone else having issued orders they will be the two who will get the food, water, and every kind of article from wire to cigarettes to the actual company.

To do this they must :—

(a) Have the latest information as to the situation both from their unit and the Staff Captain. Go and ask if they do not get it given them.

(b) Have a fixed plan with their units as to where they will meet guides—*i.e.*, at advanced Brigade Headquarters or at a certain definite point. The former is the best, as if the worst comes to the worst, and guides have been knocked out, Brigade Headquarters (the Staff Captain) can always produce someone who knows where their Battalion Headquarters are. This is especially important in rapid moves.

(c) Halt their wagons under cover near Battalion Headquarters and go up and report before actually bringing the lot up. Company guides may not have come in, or something may suddenly have occurred to alter normal plans.

(d) If there is time, visit all, or any way as many, Company Headquarters as possible, and see how they are, and report you have got their guides at Battalion Headquarters and the "Stuff" is coming all right.

(e) Know exactly what each company is receiving. Do not hesitate to ask Division "Q" when visiting for what is wanted, but do not preface the request with a statement that the S.S.O. or D.A.D.O.S. "won't do something or other" unless absolutely black-and-white proof is available on the spot.

(f) Never take themselves or their transport back until they are certain the fighting man has received what has been brought up.

(g) Remember the fighting man is tired, so make the best of his ration for him. Do not send up plain bully beef and biscuit if there is time to make it into something better. There are plenty of volunteers for company cooks if the holders of the appointment do not take interest.

(h) Study map reading by day and night. Especially study learning a map by day and working on the knowledge and memory of it by night.

Understand and get all available air photos of the country you are going over. They are more recent than maps, and will show tracks and obstacles the map does not.

(i) Avoid shelling as much as possible going up. It is generally more important to be certain of delivering your stores, etc., complete than doing so at a particular time. Start early, and you will have time to dodge enemy activity.

TRAINING.

It may be assumed that the unit training in "battle supply" will not allow of very much actual practice with troops.

The training therefore must be largely in the form of supply exercises on paper and on the ground. The initial preparation of the schemes will take time and trouble, but once two or three schemes have been prepared they can form the basis for a considerable amount of actual training.

Taking a battalion as the unit for consideration, it is suggested that the following syllabus would be valuable.

Class under special instruction to consist of:—

- (1) The Battalion Transport Officer.
- (2) As many Subalterns as possible, certainly one per company. As many junior Captains as possible, they may become Staff Captains in war, and then several units will depend on their knowledge.
- (3) The Quartermaster. He will plead pressure of work, but few Quartermasters are good map readers.
- (4) The Regimental Sergeant-Major. Similar remarks apply to him as the Quartermaster.
- (5) All Company Quartermaster Sergeants.
- (6) All the men detailed to look after pack animals with companies.
- (7) All the battalion transport.

Training will consist of:—

(a) *Preliminary Training.*

- (1) A thorough instruction in reading and memorizing maps and air photographs for all officers, W.O.'s, and N.C.O.'s.
- (2) Understanding and acting on written instructions. Not clear typewritten orders but pencilled notes. It is not sufficiently realized how even the clearest notes may be misunderstood.
- (3) Practice in dealing with peculiar loads and issues—*e.g.*, How to carry barbed wire and stakes on pack animals. How to "sandbag" rations, each bag having six or eight men's rations complete. How to load ready for distribution odd things like solidified alcohol, sterilizing tablets, galvanized iron sheets.

The essence of the instruction being how to load and pack *so that distribution under difficult conditions will be easy.*

- (4) Simple tests in map reading and memory. Maps to be studied by day, and then after dark a rendezvous given out, and those under instruction sent out without maps to get there.

(5) Subdivision of transport into "A" and "B" echelons.

- (6) Lorry, tank and aeroplane supply systems. Weights and loads carried. What these auxiliaries require in unloading parties or signals and co-operation.

The above can easily be done during winter training.

(b) *Advanced Training*.—This is where most trouble will occur. The schemes on which this training is based must be very carefully worked out. A scheme in no very great detail is given below. A detailed example would require maps to illustrate it.

Firstly is required the narrative.

Narrative.—The battalion part of its brigade, but working to a flank, is in action, and went into action at dawn, and has made only a small advance since then. It is now the afternoon. "A" echelon has passed to unit control, as the battalion may need its fighting supplies quicker than the staff captain can arrange (i.e., from its partially detached situation on a flank). "B" echelon under divisional control has received orders that it may move forward, using certain roads, any time between the hours of 19.00 and 22.00 hours (assuming summer season).

"B" echelon is at a given place. Advanced Section (S.A.A.) from the Divisional Train is at another point in advance of "B" echelon.

"B" echelon has during the day received the following from Division "Q" with orders to deliver during the night to their unit. No extra transport is available:—

300 coils of barbed wire.

Sterilising tablets at scale of three per man for use in water bottles as the next day's advance is anticipated to take battalion into an area where wells will be available but purity of water is unknown.

500 oz. solidified alcohol ("Tommy" cookers).

The battalion mail and two gift cases of cigarettes have also been delivered by the train with the day's rations.

The class for the exercise consists of:—

The Battalion Transport Officer, O.C. "B" echelon.

The Quartermaster with "B" echelon.

A Captain, O.C. "A" echelon.

R.S.M. in charge of ammunition "A" echelon.

The four Company Quartermaster Sergeants with "B" echelon.

Pack animal men with "A" echelon.

Transport personnel with "B" echelon.

Any other officers and other ranks being divided into syndicates with "A" and "B" echelons.

Problems on the above.—On paper or verbally indoors.

"A" Echelon.

(1) What arrangements will O.C. "A" echelon make to keep touch with Battalion Headquarters on returning from brigade to battalion control?

(2) What arrangements will he have made for the protection from land and air, for watering his horses, and for keeping touch with "B" echelon?

(3) How much ammunition will he have sent up, where to, and how? What has the R.S.M. done to replace the ammunition issued?

(4) It is a hot summer day, and he has one water cart and one cooker with "A" echelon. How could he use them for the benefit of the battalion.

(5) What will he do if attacked by enemy aircraft?

"B" Echelon.

What will the O.C. have done during the day?

What arrangements will have to have been made regarding rations?

No sandbags are available. How have the Quartermaster and Quartermaster Sergeants arranged rations for ready distribution to each man or group in the fight?

How is he keeping touch with "A" echelon?

What is his rendezvous when he moves forward?

What time will he start? In what order of march? Any special distances between vehicles? What will be done with the extras, gifts, and otherwise received?

What arrangements will be made to guard against enemy action by long-range shelling and aircraft attacks?

Papers having been gone through and discussed, the class should then be taken on to the ground, starting with the position of "B" echelon, thence to the advanced section of the S.A.A., and lastly to "A" echelon.

Routes—location of landmarks as a result of day reconnaissance, etc., discussed, and the points arising thrashed out on the ground.

Narrative continued.

At — hours (time depending on the ground and the detailed scheme) as "B" echelon arrives at its rendezvous the enemy counter-attack. Heavy firing and shelling is going on in front. It is quite dark.

Problems.

Action to be taken by "B" echelon and "A" echelon in this situation. After discussion, the situation could be staged on the ground and the execution of the arrangements carried out. This should be done by day and night.

To practise the unit supply arrangements at night it would be necessary to have:—

(a) All available transport out.

(b) The actual march from "B" echelon to the rendezvous carried out, "B" echelon being allowed to move a certain distance by daylight.

(c) A front line manned by a very few men with Very pistols or fireworks and blank ammunition.

(d) A skeleton battalion and four Company Headquarters placed behind and in proper position to the firing line.

This being arranged the issue of the ammunition and supplies required would be practised by the officers and men in syndicates actually

going up to Battalion Headquarters, and thence through Company Headquarters to the required places.

Nothing would be carried for actual distribution except in the case of the pack animals, men and the syndicate with them who could actually take a few rounds of blank or V.P.A. to the firing line. Lastly, it must be remembered that an Army or a unit cannot fight its best or keep up its *moral* unless properly supplied, and it is suggested this boring and somewhat thankless duty requires as much training and thought as can possibly be given it.

We have all heard on what portion of its body an army is supposed to march—if you can ensure that portion is kept filled it will roll forward even more quickly.



ANTI-TANK.

By LIEUT.-COL. J. C. DUNDAS, D.S.O., R.A.

FOR the past year or more, both in this country and abroad, Service Journals have been indulging in a severe attack of "Tankitis," if one may be allowed to coin a word to describe a new and extremely virulent malady. Prophets and visionaries foretell the day when cavalry and infantry shall be no more and tanks alone shall endure; others possessing perhaps a less wide outlook, but of a more practical turn of mind fore-shadow the increasing importance of these machines acting with other arms. The daily press and engineering periodicals from time to time retail with greater or less accuracy, according to their source of information, the development of cross-country traction. Even Parliament is not immune from the prevalent malady, as is shown by the constant questions asked in the House of Commons regarding the welfare of the Tank Corps.

Such being the case, it may perhaps not be inappropriate to study the opposite side of the picture for a moment and see whether those who are suffering from Tankitis in its present virulent form have not overlooked the historical fact that for every new offensive weapon produced an effective defensive counterpart has always been devised; whether in short the value they set on tanks is not an exaggerated one, and likely to be negatived to a large extent by the evolution of appropriate and perfectly feasible counter measures.

What then is the situation to-day? On the one side we have the tank, a machine capable of attaining a maximum speed of eight to ten miles an hour for a short period on any moderate ground, armed with machine guns and in some cases a small calibre gun, armoured as to the vital parts sufficiently to render it immune against shrapnel, H.E. splinters, and A.P. rifle or machine gun bullets.

On the other side we have (a) cavalry armed with horse, rifle, sword and a proportion of Hotchkiss and Vickers machine guns, armoured as to the vital parts by a steel helmet, and capable, on ground free of obstacles, of developing a speed of sixteen miles an hour for a short period, (b) infantry armed with rifle, bayonet, Lewis gun, grenade and a proportion of Vickers machine guns and Stokes mortars, armoured like his mounted confrère with a steel helmet, and capable of attaining for a very short period a maximum speed of five miles per hour on really good ground, but under normal conditions not more than two to three miles an hour; (c) Artillery (Horse or Field) equipped with a Q.F. gun firing a shell capable of penetrating the armour of a tank but

hampered by lack of traverse and inadequate appliances for dealing with fast moving targets at any but very short ranges, armoured in action against frontal fire by the gun shield, in movement not at all, capable of moving on good ground at eight to ten miles an hour, on other ground at two-and-a-half to three-and-a-half miles an hour.

What means of defeating tanks, then, have these combinations, cavalry and artillery, infantry and artillery?

The sword, rifle or machine gun of the cavalry are powerless even to delay a resolute attack by a section of "Medium C" tanks, and much more so that of a section of tanks of the types which will be available both in this country and abroad in the near future. The horse is therefore the cavalryman's sole means of resisting a tank attack, and the mobility of the horse on good ground exceeds, it must be admitted, that of the present tank for short distances.

But of what value is this mobility? It may protect the cavalryman from immediate destruction or capture, but its employment postulates the abandonment of the mission undertaken or the ground gained as soon as tanks threaten. Cavalry by itself is therefore defenceless against tanks and must depend solely on such Horse Artillery as may be acting with it. It is, however, improbable, to say the least of it, that the guns available at the critical moment will be sufficient in numbers or suitably placed to destroy 100 per cent. or even 50 per cent. of the attacking tanks.

Even if guns are present the doubt which will exist in the minds of the cavalry as to whether the former will be able to deal with the situation is bound to react unfavourably on its moral.

We may safely say, therefore, that at present cavalry is to all intents and purposes defenceless against a well-organised tank attack.

Turn now to the case of infantry supported by Field Artillery. Neither rifle, Lewis gun, nor Vickers machine gun have it in their power seriously to embarrass attacking tanks. Stokes mortars may do so provided that they can obtain a direct hit, but this necessitates flat trajectory fire at short range and consequent exposure of the teams to heavy machine gun fire from the tanks, a situation not conducive to accuracy of fire. Grenades unless specially designed are useless, and specially designed grenades are an additional load for the already overburdened infantryman to carry, quite apart from the fact that their fire, in order to be of value, must be very accurate, a result by no means easily achieved against a fast-moving target under machine gun fire. Wire and other artificial obstacles which infantry can erect in the field present no difficulties to tanks.

Apart, therefore, from the support of the artillery, or rather of that small portion of it specially sited so as to be able to bring direct fire to bear on the particular zone across which the tank attack develops, the infantryman to-day has but one refuge from the tank (it can hardly be called a defence) namely sound use of ground and natural obstacles—sound use of ground in selecting defensive positions on terrain where tanks cannot operate or can only do so with difficulty—sound use of ground locally by smaller units when actually attacked, and this de-

fence, when regarded from the point of view of the psychology of the infantry soldier, is not one likely to inspire him with much confidence in actual practice, however excellent it may sound in theory.

If then the question be put to-day "What means of defence against tanks have cavalry or infantry?" the answer cannot be other than "None," for it is inconceivable that a man of mere unprotected flesh and blood should be expected to face an attack by armed and armoured machines, knowing that not one of the weapons which he himself wields is of the smallest value against them, and that the power of the supporting artillery to destroy the machines is doubtful, even assuming that that support can be given where and when required, a factor over which he himself has no control.

Such being the case, what further means of countering the tank menace can be developed?

Anti-tank weapons must fulfil the following conditions:—

(1). Their power must be sufficient to enable them materially to damage the hostile tank.

(2). Since it is impossible to tell exactly (often not even approximately) where a tank attack will develop, and it is impracticable to provide an adequate defence by dispersing anti-tank weapons evenly along the whole front, such weapons must be capable of being rapidly placed in the right position at the right moment. In other words they must be mobile in a high degree, since, to quote Marshal Foch, it is in manœuvre and mobility that success lies.

(3). Their employment must not reduce the fighting value of an army for offensive action, having regard to the fact that man power is always likely to prove a limiting factor in war. In other words they must not be specialist weapons incapable of use other than against tanks, locking up man power which might otherwise be employed for a wider purpose both in the factory and in the field.

(4). Bearing in mind human psychology, the main anti-tank weapon for the defence of any particular arm must, if it is to instill real confidence in that arm, be under the entire control of and wielded by that arm, e.g., the primary anti-tank defence of the infantry must be an infantry weapon, not an artillery weapon for the support of which the infantry must depend on artillery co-operation.

(5). Since anti-tank defence, as in the case of other forms of defence, must have depth to enable it first to impede and disorganize and later to destroy the attack, anti-tank weapons must be suitable in range and power for giving effect to this requirement.

Bearing these conditions in mind, let us consider the advantages and disadvantages of the types of weapon which might possibly fulfil them.

(1). *The anti-tank rifle as evolved by the Germans.* This weapon has sufficient power of penetration but is heavy and cumbersome. It is a "specialist" weapon, depends for its effect on the moral courage of the individual to face a tank, and is easily overwhelmed.

(2). *The machine gun.* The .303 in. Vickers machine gun is insufficiently powerful to produce any real effect on a tank. To obtain

a machine gun which will not only penetrate tank armour at a range sufficient to prevent the detachment being annihilated by fire from the tank but also be capable of breaking up an attack in its early stages, it would be necessary to adopt a weapon of the largest calibre practicable, probably somewhere between .5 in. and .7 in. Such a weapon would probably be adequate to deal with any tank likely to be evolved in the near future unless the alternative of increasing the thickness of armour to the detriment of speed and manœuvring power were adopted. It would also be a useful infantry weapon under other circumstances (e.g. against low flying aircraft), *but*, and this *but* is the crux of the matter, such a machine gun would be so heavy that its transport and that of its ammunition to the right place at the right time would be almost impossible unless the gun were placed on a mechanical mounting.

(3). *A light gun—say to 3-pounder.* With this weapon we should again have sufficient power to deal with any tank likely to be encountered in the near future, but its method of transport again involves difficulties. On a fixed mounting with all round traverse it would in theory be excellent, that is if it ever happened to be at the right place at the right moment. Since, however, such a mounting involves almost complete immobility it would be of little value in static warfare and useless in mobile warfare.

Horse transport would be unduly vulnerable, since the gun, in order to carry out its rôle, must necessarily be placed in action in the infantry line. So, once more for the satisfactory transport of the light anti-tank gun we are compelled to fall back on mechanical transport which is capable of moving across country.

(4). *A light mortar.* The Stokes mortar as it exists to-day can undoubtedly obtain a percentage of hits on a moving tank provided that the tank by its fire does not first annihilate the mortar detachment, but the range of the mortar is so short and the vulnerability of its detachment when employing low trajectory fire so great that this may be looked on as more or less a matter of certainty. A better mortar might prove more effective, but once again its transport and that of its ammunition is bound to prove the critical factor, since it, in common with all other weapons, must be brought to the right place at the right moment if it is successfully to repel a tank attack. Man and horse transport are open to the same objections as in the case of the light gun, and some form of cross country mechanical traction would alone prove satisfactory.

(5). *Field Artillery (including Horse Artillery).* Field guns have unquestionably adequate power to deal with any tank likely to be met with in the near future, and are bound to form one of the main anti-tank defences for many years to come. Yet field guns have their disadvantages. In the first place they do not fulfil the condition specified above, in so far as cavalry or infantry are concerned, that the main anti-tank defence of any arm should be under the complete control of and be wielded by that arm. However good co-operation between artillery and infantry (or cavalry) may be in any particular instance, the mere presence of guns will never give infantry that confidence which will be

necessary to ensure their standing up boldly to a tank attack. Secondly, artillery equipment does not enable guns to engage fast and erratically moving targets except at fairly short ranges over the sights. Consequently anti-tank guns must be specially sited, and positions suitable for anti-tank defence are rarely suitable for general artillery purposes and are usually very exposed as our experience in France in March, 1918, showed.

Thirdly, if guns are held in mobile reserve to meet an attack, they are under present conditions vulnerable when in movement towards the threatened point. They are also only capable of moving at a slow pace across country or on roads congested with troops, with the consequence that a considerable period of time must elapse before they can make their effect felt even under the most favourable circumstances. In the case of a tank attack such a delay in meeting it may well be fatal.

To increase the mobility and decrease the vulnerability of the field gun and thus render it suitable for anti-tank operations, it seems clear again that we must take to mechanical traction, and in this connection it may be worth while to quote the opinion of the chief instructor in tactics at the French School of Artillery: "The problem of tactical mobility has not been solved during the war. It will only be solved by the adoption of a system of artillery caterpillars, the system of the future."

(6). *Mines.* Mines may undoubtedly be valuable as a method of countering tanks under certain circumstances, but they have many obvious disadvantages—(1) They cannot be laid broadcast along the whole front, but only in specific areas which we are prepared to deny, not only to the enemy, but to our own troops. (2) Their transport in mobile warfare becomes a matter of the greatest difficulty. (3) If small mines are employed it is not difficult to adopt means by which tanks can explode them before passing over them; if larger or more complicated mine systems are employed much labour is necessary to install them, their positions can be detected in aeroplane photos, and they can be destroyed by hostile artillery fire.

Mines therefore may be looked on, at any rate as far as the defence of forward areas is concerned, as weapons only suitable for use in static warfare for the passive defence of certain limited areas.

What conclusions then can be deduced from the above consideration of possible weapons?

First that the main defences against tanks must be (a) the field gun and (b) a small calibre gun or heavy machine gun. *Second* that even if the field gun be so mounted and equipped as to form a really satisfactory weapon for this purpose, nevertheless human psychology will necessitate a light gun or heavy machine gun being given to the infantryman in addition as his primary defence against tanks. *Third*, that field guns, light guns and machine guns, in order that they may be brought to the right place at the right time and, having been brought there, may carry out their rôle in reasonable security, must be mounted on armoured self-propelled cross country vehicles.

And it is in these conclusions that the comedy lies, since like Balaam of old we set out to curse and have ended by blessing. For what after all are armoured self-propelled cross country vehicles carrying guns or machine guns but tanks, and what therefore is the real conclusion at which we have arrived, but that the true defensive counterpart of the tank is the tank—certainly not such a tank as the cumbrous Mark V which we are apt to picture when we think of a tank to-day, probably not even any one type of tank, but rather a combination of heavily gunned tanks, fast and of some size, and small light destroyer tanks armed with powerful machine guns or perhaps a light gun (forming an integral part of the infantry) and its primary defence against the hostile tank.

The working out of the details of these machines and their organization lies ahead; for the present it is enough to satisfy ourselves that it is in the tank itself that the effective defensive counterpart of the tank will be found.

As the French officer already quoted well sums up the situation : " Material and mechanism have invaded all branches of the service and all modern armies and dominate to-day the conditions of war to such a point that without them the most heroic valour would only end in bloody disaster. But this mechanism and this material will still continue to develop and improve during peace; the armies of to-morrow will therefore, for fear of finding themselves in the next war with obsolete weapons, be obliged to follow unceasingly the improvements, adapting their form and their organization to the new materials which will arise, teaching their soldiers their employment, and enlarging the industrial output for the day of war. And yet . . . the moral of the combatant will always remain the supreme argument in war, and it is with material handled by men that war will always be made."



AN INVESTIGATION OF THE POSSIBILITIES ATTACHING TO AERIAL CO-OPERATION WITH SURVEY, MAP - MAKING AND EXPLORING EXPEDITIONS.

By SQUADRON LEADER P. R. BURCHALL, O.B.E.

(Gordon-Shephard Prize Essay for 1921.)

MOTTO :—

“ He that answereth a matter before he heareth it,
it is folly and shame unto him. . . . ”

Proverbs xviii. 13.

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I.—THE SCOPE OF THE INVESTIGATION AND THE REASONS FOR AERIAL CO-OPERATION.

AERONAUTICS was undoubtedly the most noteworthy weapon, and indeed, science developed during the late War. Simultaneously with the development of aeronautics came developments in other subjects.

Photography, wireless telegraphy and telephony, cartography, navigation—each contributed its quota of usefulness. The phrase “aerial co-operation” to-day thus includes the employment of these sciences in conjunction with aircraft. Outstanding among the usual reasons prompting the suggestion of aerial co-operation is the possibility of employing aerial photography to provide a pictorial record of the

Expedition's territory. In the peculiar circumstances and stress of war it quickly became apparent that photography from the air could offer valuable assistance to any organisation responsible for survey, map-making or map revision. Astonishingly successful results were obtained by most of the belligerents and the importance of the science of aerial-photo-survey was appreciated.

Since the cessation of hostilities many enthusiastic supporters of aeronautics and particularly of aerial-photo-survey have acquired a somewhat exaggerated notion of the benefit that survey, map-making and exploring expeditions would reap from aerial co-operation.

Although there were, admittedly, at first, serious weaknesses in the science of aerial-photo-survey, these weaknesses have now been investigated and to a very large extent overcome. None-the-less either through ignorance or prejudice some of the supporters of older methods of "delineating the surface of the earth" have somewhat unjustly discounted the usefulness of aeronautics in conjunction with photography for mapping work. In addition to aerial-photo-survey there is the possibility of using aircraft for transport (in polar expeditions particularly this suggestion is at present finding favour), and for reconnaissance of territory to determine the best line of advance, etc.

Meteorology has not, hitherto, been largely studied by survey and exploring expeditions, but there would be value in such study and aerial co-operation can be of use there just as it can be so in the British Isles.

The value of aircraft also as a bridge across a large river or a chain of hills should not be dismissed without consideration.

The purpose of this investigation is to discover :—

- (i) What work can be done by aerial co-operation that cannot be done at all by other methods.
- (ii) To what work would aerial co-operation add speed or accuracy, or cheapness.
- (iii) What is the best policy for the present and future.

II.—TYPES OF AIRCRAFT.

Aircraft may be classified :—

1. Heavier than air :—

Aeroplanes.
Seaplanes and flying boats.
Amphibians.

2. Lighter than air :—

Dirigibles.
Free balloons.
Kite balloons.

Because of their high initial cost and the cost and difficulty of maintenance it will be as well to forego consideration of the usefulness of large multiple-engined aeroplanes and dirigibles until the smaller types of craft have conclusively established their value. It is thus necessary to consider the rival claims of :—

- Small aeroplanes.
- Small seaplanes and flying boats
- Amphibians.
- Small dirigibles.
- Free balloons.
- Kite balloons.

Among the heavier-than-air craft the choice would be determined by locality and available alighting surfaces. The recent performances of amphibians in proving their ability to rise from an aerodrome and alight on a river of moderate size (and *vice versa*) justify the assumption that craft of this type will usually prove very suitable for the class of work under consideration.

Among the lighter-than-air craft the small dirigible offers few advantages over heavier-than-air craft and is handicapped by its bulk and the need for landing parties of not inconsiderable size. The free balloon by its inherent inability to return to its base is ruled out of the discussion. Among balloons the kite balloon remains. As an aid to the work of such expeditions as boundary commissions or hydrographic surveys the kite balloon seems to possess attractions worthy of closer examination than at present recorded.

Whatever other considerations may enter into the choice of aircraft the effects of climate must receive very close attention. The ravages of tropical heat and damp have necessarily caused close study of the records of machines employed in such conditions, and the results of such study should be consulted before finally choosing the particular craft most suited for a particular expedition. Similarly machines intended for co-operation over frozen Polar seas will need modification from the normal.

III.—AERODROMES, LANDING GROUNDS, AND TRANSPORT.

Various factors entering into the possibility of establishing air *routes* have been published by the Air Ministry,¹ and there are many points of similarity between the establishment of an air route and aerial co-operation with an exploring or mapping expedition. The Air Ministry state :—

" An air-route can be established only upon a system of bases, each one of which must be served by transport which is able to cope with the quantity of petrol, oil, stores, spares, etc., required.

¹ *Geographical Journal*, May, 1919.

"The sea, a navigable river, a railway, or a road fit for heavy traffic is consequently an essential. An aeroplane landing ground should allow a clear run of at least 800 yards in any direction. . . . The surface must be such that sufficient ground speed to take the machine into the air can be obtained, so that a smooth hard surface free from ditches and banks is essential. . . . A flying boat requires a run of 800 yards against the wind with a further space free of high obstacles. A minimum depth of 6 feet is also necessary to get up speed. Seaplanes require shelter from the wind when moored, also facilities for landing them, either a convenient beach or slipway. . . . Unfortunately, a forced landing cannot entirely be left out of our reckoning, and the nature of the country over which the flight is to be made must be considered, as well as the possibility of prompt repairs to the machine and succour to the crew."

So far as the transporting of the aircraft equipment is concerned, each type of expedition offers a separate problem. If aircraft are carried on board a suitable ship employed on say polar or hydrographic survey work the problem is much easier of solution than if the aircraft and equipment need to be carried up country by pack transport.

Against the handicap and incubus of transporting the aircraft must be set the advantage of high speed travel, not only for progress and reconnaissance but also, possibly for rescue work.

IV.—AERIAL-PHOTO-SURVEY.

It is not necessary to consider here the technical side of aerial photography beyond mentioning one or two elementary features.

In essentials the aerial camera is very like any other camera. The main points of difference are that in aerial work the sensitive surface is held in an oblique or horizontal plane instead of the vertical plane upon which most ordinary photographs are projected. Secondly, the modern aerial camera contains provision for easy or automatic change of plate or film and resetting of the shutter by which the exposures are made. Again, the familiar tripod type of stand upon which so many cameras rest is not suitable for use in the air and gives place to some form of cushion or spring or gimbal resting place. Further, as the nearest object in aerial photography is sufficiently distant from the lens, there is no need to adjust the focus of most lenses in the air and the aerial camera thus is almost invariably of the fixed focus type. The processes by which the aerial photograph registers the different colours of the earth's surface in their correct relative tones—the shutter mechanism, the development and fixation and printing of the image—each of these has its counterpart in ordinary photography and needs no description here.

Contrary to the general impression photography from an aerial platform is by no means new. So long ago as 1858 Nadar obtained a

photograph of Paris from a balloon, and in 1886 a photograph of Belleme (Orne) was obtained from a free balloon at a height of 1,100 metres. This latter was a remarkably fine photograph and is reproduced in the *Paris Photographe* for 1893. For technical excellence it compares very favourably with modern productions. In 1889 E. Deville, Surveyor General of Canada published a text book entitled "Photographic Surveying" embodying the results of the well-known photo-survey of the Rocky Mountains. The possibilities of using ordinary photography as an aid to mapping had even then been fully realised and tested with gratifying success. In 1893 Colonel A. Laussedat, Directeur du Conservatoire des Arts et Métiers, published another classic on the subject entitled "Les Applications de la perspective au lever des plans."

The tremendous possibilities attaching to an efficient combination of aerial photography and photo-survey have lately been realised and much research work has been done by British, French, American and German investigators.¹ The true factors of the subject had only to be clearly realised before mathematical solutions of the difficulties were forthcoming. The subject has now been investigated fairly thoroughly from the mathematical standpoint and methods of work to suit differing circumstances have been recommended, and some of them have been tested with remarkable success. If the earth's surface were regular (either flat or spherical) the overwhelming advantages of the aerial method of photo-survey would at once be apparent. But as the earth's surface is irregular the photographic picture of it is distorted by the variations of contour. A further distortion is introduced into the photograph by reason of the fact that the maintenance by the aircraft and the camera of a perfectly even keel has not yet been achieved.

Other small distortions are possible from various causes which need no comment here.

Distortion due to contour and to the laws of perspective can be corrected either optically or mathematically so long as a certain minimum amount of topographical information is available.

It is usual for the surveyor to define the positions of trigonometrically fixed points on the earth's surface by co-ordinates—geographical or rectangular—while the cartographer defines them by the rectangular co-ordinates on that projection he desires to use for his maps. It is well to remember that it is to the *cartographer* that aerial co-operation could offer assistance and it is only within his trigonometrically fixed framework of points that aerial photographs can be plotted.

Thus to be of the greatest use to a mapping or surveying expedition the aerial photographs need to be keyed with precision into a framework of points accurately fixed upon a suitable projection by triangulation in the usual way.

The number of fixed points necessary in an area of say 1,000 sq. miles will depend entirely upon the skill of the pilot, the mountainous

¹ E.g., Brock, Burchall, Clerc, Hugershof, McLeod, Thomas, Winterbotham, &c.

or flat nature of the territory and upon the degree of accuracy demanded in the resulting map. Fifty or sixty points fixed within a square measuring 30 miles each way should ensure a sufficient degree of accuracy for any ordinary open country map.

On the other hand, if a very accurate town map is required the same number of points would possibly be needed within a square measuring only four miles each way, and very remarkable accuracy should then be obtained and the rapidity of the mapping would be very great indeed. Thus in the *National Geographic Magazine*, March, 1921, p. 344, is reproduced what appears to be an excellent map of Rochester N.Y., a city of 300,000 inhabitants made from eighty photographs obtained in one single flight of one hour and twenty minutes.

There are two main methods of keying aerial photographs into a framework of trigonometrical points. The first method is applicable to open country where only moderate accuracy is demanded. This consists broadly in taking an overlapping strip of photographs between two fixed trigonometrical points say 20 or 30 miles apart. The photographs are then printed to a common scale and the salient features in the strip are plotted on to the map. A second trip (intersecting the first) between two *other* fixed trigonometrical points is then obtained and treated in the same way. If both intersecting strips are accurate the plotted positions of the area common to both strips will coincide: If the strips are not absolutely accurate (as is almost invariably the case) the plottings will not coincide and the mean of the two will be accepted. Each strip will then be cut into two strips so that each of the four new strips will run from one fixed trigonometrical point to the mean point of intersection on the blank map. The detail from each of these four strips is then transferred to the map (by eidograph or otherwise) and so the map will be built up. Small inaccuracies will be present but by this system they are localised and minimised and the resulting map will be of substantial value. H. Hamshaw-Thomas reports excellent results from this method in Palestine.

The second method is applicable to mapping where great accuracy is demanded. This consists of using a field party to fix sufficient points for at least four recognisable ground points to appear on *each* photograph. The four points on the photograph must be made to coincide with their map positions. This re-distortion (where necessary) can be done optically with minute accuracy; or, as an alternative the distortion can be corrected rapidly by means of a simple geometric construction.

It is now firmly established that reasonably accurate maps full of detail can be produced by aerial-photo-survey in co-operation with a small field party in a fraction of the time required by other methods. Where greater accuracy is required more assistance from the ground is necessary.

Lieut.-Col. H. S. L. Winterbotham, C.M.G., D.S.O., R.E., found¹ that it was a great saving of labour to use the plane-table for fixing ruling

¹ *Geographical Journal*, April 1919, p. 265.

points only, and to plot the detail from photographs, which had been re-photographed (*i.e.*, re-distorted) to fit these points.

The tremendous advantage that the aerial photograph possesses over other forms of survey is the meticulous accuracy and speed with which minute topographical detail is recorded.

Another great advantage is that a great proportion of the mapping work can be done in the comfort and convenience of a drawing office instead of necessitating long and expensive work in the field.

There are three main methods of reproducing photographic maps :

- (i) By retouching the photographic strips or mosaics, adding names, etc., and then reproducing direct in photogravure or half-tone.
- (ii) By inking up the detail of a mosaic, bleaching away the photographic image with potassium ferricyanide and hypo and reproducing as a line block.
- (iii) By transferring the detail from the photograph on to blank paper by means of an eidograph and reproducing in the usual way.

V.—AERIAL CO-OPERATION WITH DIFFERENT VARIETIES OF EXPEDITION.

As a preliminary to the detailed consideration of the possibilities attaching to aerial co-operation it is imperative to differentiate between the different types of expedition. The most important types are summarised below and the usefulness of aerial co-operation to each is considered separately.

- (a) Exploration, general reconnaissance and preliminary survey.
- (b) Forest and agricultural survey and land registration.
- (c) Hydrographic and irrigation survey.
- (d) Geological, mountain and railway survey.
- (e) Archeological survey.
- (f) Map-making expeditions.

(a) Exploration, General Reconnaissance and Preliminary Survey.

Even in expeditions where no attempt is being made to construct any but sketch-maps, aircraft can prove of great utility. The increase in the field of view that an aerial platform provides is so enormous that the use of aircraft would be invaluable for discovering lakes or rivers or other features sufficiently interesting to justify an alteration in the proposed route or line of march. There is also the possibility of taking photographs during the whole of each reconnaissance flight and recording the time at which each photograph was taken, and also of recording, at intervals of say one minute, the readings of altimeter, air speed indicator and compass. By calculating drift, and charting the course there would seem to be more than a possibility of plotting the resulting photographs, in their map positions. It is not, of course, advanced that such

a method would give more than merely approximate results, but it is thought that experiment might prove it to possess a certain value where ground parties could not be provided.

Many exploring expeditions are not concerned primarily with mapping but with discovery, and in this connection it is very interesting to note that "The British Controlled Oil Fields, Limited," are sending two seaplanes to survey the delta of the Orinoco River in a search for oil. The Managing Director states¹:

"Photography will be all-important, for oil lands show a partly destroyed vegetation in parched ground, and the camera will reveal the areas which have this distinctive feature, the tributaries which run into the parent spring, and the forest roads and approaches which will be of use to us."

It is also stated²:

"This delta is a vast unmapped area of gloomy mangrove swamps, threaded by numerous streams

"To explore it on foot or by boat would occupy years, and the explorers might pass near to an oil spring without seeing it in the dense jungle. From the air, however, the oil ought to be easily discernible, for where it bubbles up to the surface it kills the vegetation.

"The company has accordingly given a contract for an aerial survey to the Bermuda and West Atlantic Aviation Co., Limited, which has established a flying station at Bermuda, and will use the river as an aerodrome, while the many streams will provide alighting places in case of need.

"The party will live on two steel barges, also moored in the river. It is led by Major Cochran Patrick, D.S.O., M.C., who is accompanied by two pilots, three aircraft and engine mechanics, and a photographic staff of four experts in aerial photography. Two super-marine flying boats have been sent on ahead."

Major Brock (Canadian Engineers) states³:

"In Canada we have been using photographs to a considerable extent in surveying hilly and mountainous country by photo-topography. In doing that work we have wished very much that we could have an aeroplane to get detail of the features—the river and stream-courses, and the lakes. I remember very distinctly the first time I saw a notice in a paper of an aeroplane making a prolonged successful flight. With my topographer we talked the thing over—we were up in the mountains making a topographic map—and we wondered how long it would be before the Government of Canada could be induced to get a few aeroplanes for topographic work there. It seems to me that it would be extremely useful for work in conjunction

¹ *Daily Mail*, 19-3-21.

² *Evening Standard*.

³ *Geographical Journal*, 1919, p. 399.

with photo-topographic surveying. By photo-topographic methods you could fix the peaks and the main mountain ridges and the contours of the slopes with few stations, but valleys are rather more difficult without an excessive number of stations, and for them it is generally economical to secure the information by plane-table work. Thus one plane-tables the lower parts of the valleys and uses photo-topographic methods, which are very cheap and convenient, for the triangulation and for the upper slopes and peaks. Aeroplane photographs in place of the plane-table work could be combined very well indeed with the photo-topography. For a great deal of work in Canada I am quite sure we could use aeroplanes to very good advantage, in exploratory work especially."

It is interesting in this connection to see that Messrs. Martinsyde are advertising (1921) that their aeroplanes are at present being used in the exploration and mapping of many thousands of square miles in North-West Canada.

(b) *Forest and Agricultural Survey and Land Registration.*

The survey of forests by any method where observations are taken only from the ground is a slow and difficult task, usually necessitating much cutting not only for the passage of the party, but also for taking sights. So long as a base is available within reconnaissance distance of the forest the advantages to be derived from the use of aerial-photo-survey for this class of work are obvious.

Writing of the use of aerial photography in a country like Egypt Lieut.-Col. T. E. Lawrence states¹:

" . . . the tax gatherer would record his crop measurements—a most important item—and various other departments would likewise gain . . . Palestine requires land registration speedily and cheaply. Even now the quickest and cheapest method is by air-photo-survey combined with the necessary triangulation. Possibly the results would not be up to the accuracy of the best cadastral survey, but with skilful management, certainly accurate enough for present purposes. The cost would be a fraction of that required for ordinary methods, and a useful, though not a final result would be obtained in a year . . . "

Lieut.-Col. Salmon, M.C. states²:

" I feel quite sure that in the future a good deal of valuable revision work could be done by air photography. For instance in Ceylon we have quite a good topographical map of the up-country districts; but when it was surveyed the country was divided into the cultivated portion and the uncultivated portion. Now the

¹ Lieut.-Col. T. E. Lawrence, C.B., D.S.O., "Map Making by Air Photography," *Daily Telegraph*, November, 1920.

² *Geographical Journal*, June 1919, p. 399.

uncultivated portion consists of large tracts of forest and also of open patana land. These form very important topographical features; but unfortunately the distinction is not shown on the map. I am quite certain that by air photography this could be put right. It would be a very big business to send surveyors over comparatively wild country to put in all the boundaries, but an aeroplane could do the thing in a short time."

(c) *Hydrographic and Irrigation Survey.*

The French Government have realised the large value of aerial-photography in connection with hydrographic survey and are using it at present in their hydrographic survey of parts of the Mediterranean. In such matters as coast erosion and the deposit of sediment at the mouths of rivers the aerial photograph contains information that is infinitely more clear than any worded report or any charting of conventional signs. As a supplement to soundings aerial photography in such cases is invaluable.

The taking of detailed river levels for the purpose of working out irrigation schemes is one of the most tedious tasks imposed on the surveyor. It has not yet been very generally recognised that comparative aerial photographs (taken at different stages of a river's flood) will not only give a very detailed record of the slope of the river's banks and basins but will also provide an impression of the territory from which irrigation schemes can be very clearly visualised and planned, often with a great saving of time and labour. In fact the aerial photographic study of the margins of large rivers may in all probability be of very great value.

Writing in 1920 of aerial photography in this connection Lieut.-Col. T. E. Lawrence states:—"Egypt would gain, apart from mapping. The Irrigation Department would obtain all sorts of valuable information concerning the Nile, its lakes and basins, including the contouring of the latter by flying when the floods are at varying levels. Systematic air photography of such a country will shortly become an annual necessity."

(d) *Geological, Mountain and Railway Survey.*

Aerial-photo-survey can certainly add its quota of usefulness to geological and mountain surveys. In showing formation, faults and relative contour it is of great value, particularly when aided by the stereoscopic study of overlapping photographs; but the subject is at present somewhat complex and, although the theory of measuring contour by means of stereoscopic aerial photographs has been established, the subject needs further research to determine the most useful methods of work. In such expeditions as the proposed ascent of Mount Everest it is clear that the paucity of landing grounds would render aerial co-operation almost an impossibility.

On the other hand a photographic map of a territory in which exist hills up to, say, 2,000 feet high, together with rivers and woods, would

clearly be of very great assistance in the preliminary planning of the route to be followed by a railway or a canal.

(e) *Archeological Survey.*

The most striking result yet recorded as possible from aerial co-operation with archeological survey expeditions has been related as follows, by Lieut.-Col. G. A. Beazeley, R.E. Survey of India¹ :—

" When it was decided to carry out a 6-inch survey of the area round Samarra, Colonel Gunter, R.E., in charge of mapping G.H.Q., recommended the following procedure: *first to photograph the whole area from the air*; then to reproduce 6-inch scale blue prints, transfer them to the plane table; and carry out supplementary ground surveys. This was carried out, with the result that the remains of an ancient city were disclosed which would not otherwise have been discovered in all probability. It was some 20 miles long and anything up to $2\frac{1}{2}$ miles in width, and must have supported a population of about four millions. *Had I not been in possession of these air photographs the city would probably have been merely shown by meaningless low mounds scattered here and there*, for much of the detail was not recognisable on the ground but was well shown up in the photographs, as the slight difference in the colour of the soil came out with marked effect on the sensitive film.

" The epoch at which the city was built appears to have been before the birth of Christ.

" When riding as a passenger in an aeroplane I could clearly see on the desert area the outline of a series of detached forts, whereas, when walking over them on the ground no trace was visible. Another interesting thing I could see in my flights was the outline of an ancient scientific irrigation system, such as has been introduced in the Punjab only in comparatively recent years."

From the point of view of the archeologist it is thought that the above glowing tribute will almost demand the employment of aerial co-operation for map-making in countries where the possibility of such discoveries exists.

(f) *Mapping Expeditions.*

The usefulness of aerial co-operation to a purely mapping expedition is determined very largely by the accuracy demanded in the finished map and the scale upon which it is being prepared.

This particular subject is of very large importance and has been dealt with in the Chapter on Aerial-Photo-Survey, but it may be as well to state here that it is probably in the revision of maps and in the preparation of Town Maps that aerial co-operation will be found to have its greatest value. Eastern cities and towns in particular are usually very congested and their streets are narrow and tortuous, and for a

¹ *Geographical Journal*, May, 1919.

variety of reasons their detailed survey presents the greatest difficulty to the ground surveyor. On the other hand the mapping of town by aerial photographic means is by comparison extremely quick, easy and cheap.

As a tangible example of this point the following remarks of Lieut.-Colonel T. E. Lawrence are illuminating:—"A photographic map of Damascus city done in October 1919 on a scale of 1-5,000, took thirty-one working days to complete, including the taking of the photographs, trigonometrical work, enlarging, touching up, and reducing. The total cost (including only photographic material, petrol, oil, insurance and depreciation of the aircraft) was about £50 (estimated as its share of a larger map). Three Italian engineers took three years to produce a map on the same scale, with much less detail, at a probable cost of well over £6,000.

"The speed of the method requires no demonstration. In an hour's flight almost 100 square miles can be photographed, gaining detail that would take weeks or months to collect otherwise. The trigonometrical work takes the same time in both methods, and the reproduction is quicker by photography."

VI.—THE EFFECTS OF AERIAL CO-OPERATION ON THE CONSTITUTION OF EXPEDITIONS.

There can be no doubt that the adoption of aerial co-operation must of necessity increase the size of any self-contained expedition. An expedition is often conceived as a party sallying forth on foot, on horseback or in a ship, from an established base and working forward to the territory to be explored or surveyed. The expedition must be capable of carrying or providing its own food, arms, instruments and the hundred and one items necessary for its work. If the detailed mapping of a large area is contemplated a large staff of surveying personnel must be employed for a considerable time, and the speed with which the expedition moves ahead will be restricted by the speed of the surveyors. On the other hand if aircraft is employed, the number of the surveying personnel can be greatly reduced and the speed of the advance will not be so much restricted by their work. If the aircraft can work from a base established independently of the expedition there is no reason why the expedition could not be reduced in size and the duration of its work curtailed.

But if aircraft must accompany the expedition a minimum of two aeroplanes may be advisable, with, say, three aviators, six mechanics, two or three photographers and enough bearers to transport the aircraft, its petrol, oil and spares. Some form of dark room also will be necessary. There will thus be a very considerable addition to the normal constitution of the expedition, but against this increase must be counted the greater speed of the work, the greater amount of information to be gained and the (possibly) greater accuracy of the results.

The question is complex and of almost infinite variety. Take for example an expedition charged with the mapping of an island similar to the Isle of Wight. The establishment of the necessary trigonometrical points to make aerial-photo-survey successful would not be a large undertaking and could probably be completed in a week by a small field party. The necessary photographs could be obtained in one day from aircraft operating from a permanent mainland air station such as Gosport, and another week would be sufficient for the collection of names and the construction of the map.

Thus without any addition to the expedition proper a month would suffice for a result that would undoubtedly take very much longer to produce by other means.

VII.—COST.

Such expeditions as are being considered are often handicapped by lack of funds. It is not possible to equate resulting knowledge with monetary cost, but the cost of accurately mapping any given territory by the usual methods is fairly well known, and to justify aerial co-operation some monetary saving or gain in speed or accuracy would need demonstration.

Assuming that aerial co-operation is justified under one or other or all of the above heads the cost and difficulty of transporting the aircraft and its equipment and stores to the territory must be investigated and also the cost and difficulty of transport *within* the territory, in addition to the cost of maintenance of the aircraft whilst at work. Against these costs and difficulties must be credited any advantages the expedition might derive from aerial transport both to the territory and within it.

These costs and difficulties of transport and maintenance would, of course, vary enormously in different expeditions—size and duration of the expedition, type of aircraft, number of aircraft, availability of water and landing grounds, proportion of work allotted to aircraft, climate and a hundred other factors must be considered in arriving at any estimate of cost for any particular expedition. It will not, of course, always be necessary to charge the whole cost of the aircraft to the expedition, and the following remarks by Lieut.-Colonel Lawrence in this connection although somewhat optimistic are not without value:—

“ In reckoning costs, it is assumed that a Survey Department is a Government office, that aeroplanes are, or will shortly be, owned by every Government, and hence that the cost of purchase, equipment, personnel, and other items, need not be charged to the Survey Department. This being accepted, the only cost of making a particular flight is that incurred by payment of petrol, oil, insurance, and depreciation. Two hundred square miles can easily be photographed in two flights of two hours, plus the time necessary to reach a height of 10,000 to 15,000 feet and to get from and to the aerodrome to the country to be mapped. £10 per hour more

than covers the above-mentioned costs; then for 200 square miles, say, five hours, or £50, will cover the actual cost of flying. This gives 5s. per square mile; add the cost of the negative, developing, printing, and attendant processes at two negatives per square mile—say, 5s. to 6s. per square mile—and one has obtained most of the detail of a map at a cost of 11s. per square mile. To measure the detail for a map on a scale of 1-5,000 accurately on the ground would cost from £5 per square mile of open country to £1,100 per square mile of intricate city.

"Even if the Survey Department bought its own planes and paid its own pilots, in many countries there would still be a saving. For accuracy, all maps must be based on trigonometrically fixed points and measured traverses. The cost of this framework will be the same, or less for air photo-maps. It has been found much cheaper to reproduce the retouched photo by photogravure than to draw the map and print in the usual way."

VIII.—RESULTS OF THE INVESTIGATION.

The various results of aerial co-operation that have been cited and the possibilities that have been envisaged denote clearly that aerial co-operation is a weapon that calls for careful testing. Whether it can usefully be brought into play in any particular expedition will depend upon a variety of factors each demanding detailed examination.

The chief of any expedition contemplating the employment of aircraft should obtain answers to the following questions. Not unless satisfactory answers (in the light of the preceding chapters) are forthcoming should the suggestion of aerial co-operation be pursued:—

- (1) Can aircraft operate from a convenient base already established?
- (2) Can a convenient landing ground, ship or river be found or provided as a base?
- (3) Will more than one base be required?
- (4) What will be the cost of the base or bases?
- (5) Will it be necessary to charge the whole of the cost of providing the aircraft, its equipment and personnel, to the expedition?
- (6) Is the climate suitable for aircraft?
- (7) Is the territory to be surveyed or mapped or explored suitable for aircraft work?
- (8) What will be the normal duration of the expedition?
- (9) Will the use of aircraft shorten the duration of the expedition?
- (10) What monetary saving will be effected by the shortening?
- (11) What type and what number of aircraft will be necessary?
- (12) What will be the cost of obtaining and maintaining the aircraft and its stores (including photographic stores)?
- (13) What additional personnel will be required?
- (14) What will this additional personnel cost?
- (15) What personnel will the use of aircraft release?

- (16) What saving will thereby be effected?
- (17) Will the use of aircraft provide information that would otherwise be missed?
- (18) Will information in greater detail be obtained by the use of aircraft?
- (19) What will be the value of such additional information and greater detail?
- (20) Will the information given by aircraft be of sufficient accuracy?
- (21) What additional cost will the transport of the aircraft demand?
- (22) What saving will be effected by the use of aircraft for transport?

IX.—POLICY.

Sufficient evidence has been produced to justify the conclusion that in many cases great use can be made of aerial co-operation. The most urgent present needs are the gathering of statistics as to costs involved in different circumstances and the testing of the accuracy of the surveys accomplished by reasonably skilled operators.

The use of aircraft as an aid to mapping is certain to become more general and the best method of securing data as to cost, speed and accuracy must be considered. It should be possible to use service aircraft and personnel for the purpose, not only without interfering with service training but also with advantage to such training.

It is suggested that the recently formed Air Survey Committee should prepare a mapping scheme for three or four Royal Air Force training units stationed in England, and should ask the Air Ministry and Royal Engineers to co-operate.

The schemes should, of course vary, and should be on the lines of the observations under the head of Aerial-photo-survey.

The schemes should stipulate :—

- (a) Commencing date.
- (b) Area to be mapped.
- (c) Number of trigonometrical points to be fixed by R.E.'s.
- (d) Number of aeroplanes to be earmarked for this duty and no other.
- (e) Scale of map to be prepared.
- (f) Date on which aerial work to cease.
- (g) Date on which drawing office work to cease.

The duties of the Air Survey Committee would be :—

- (i) To prepare the schemes.
- (ii) To secure Air Ministry and R.E. co-operation.
- (iii) To indicate the methods to be employed.
- (iv) To examine and publish the results (both of cost and accuracy)

The duties of the flying unit would be :—

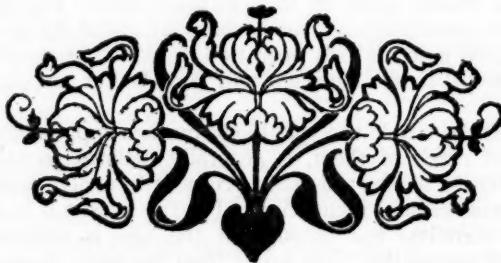
- (i) To examine the scheme.
- (ii) To confer with the R.E.'s.

- (iii) To keep the aeroplanes in commission.
- (iv) To secure the photographs.
- (v) To keep an accurate record of flying time, flying and photographic personnel employed, hours worked on the ground and to report the whole to the Committee.

The duties of the R.E.'s would be :—

- (i) To examine the scheme.
- (ii) To confer with the R.A.F.
- (iii) To fix the trigonometrical points.
- (iv) To key the photographic results into the trigonometrical framework.
- (v) To draw the map.
- (vi) To keep an accurate record of the personnel (both field and drawing office) employed, and hours worked.
- (vii) To report the whole and to forward the map to the Committee.

The value of such experiments would, of course, be greatly enhanced by repetition in, say, Egypt, Palestine and India.



JUTLAND AND THE PRINCIPLES OF WAR.

Translated by Permission.

The following is a translation of an article by Capitaine de Corvette Richard, which appeared in the *Revue Maritime* of May 1921. It is followed by a note in a subsequent number of the same excellent little Review by Captain Castex. It is educative to read what foreign naval officers, especially those of the French Navy, are at present thinking. It appears that their Ecole Supérieure de la Guerre is bending its energies to the development and dissemination of a doctrine of principles of war; and endeavouring to apply these to the weapons that modern invention provides now, and promises to provide in the future. The constantly recurring reference to two schools of thought shows that the same influences are at work in the French Navy as in our own.—*Tr.*

NAVAL war is marked by a characteristic that is singularly displeasing to those who take part in it; namely, that, if not all its ends, at least its essential object can be attained without battle. If one of the belligerents chooses systematically to refuse combat, he nearly always possesses the power to keep clear of it. No means exist by which a purely naval force when confined to its own resources, can attack a fleet that has locked itself up in a fortified base. The destruction of a fleet in such circumstances can be brought about by no other means than a combined land and sea operation, in which, moreover, the Army plays the principal part. Santiago and Port Arthur are classic examples of this.

Man, when he is able to avoid blows by the simple method of putting himself out of reach of them, is generally inclined to take advantage of the opportunity offered; he then proceeds to evolve a doctrine aimed at justifying this natural inclination. For this reason it is not surprising to find that maritime war throughout the ages is conspicuous for the rarity of great sea-battles; this arises from the wish of one or the other, and often of both, adversaries to avoid a contest that is considered superfluous. How few are the examples of naval wars in which fleets of comparable material strength have deliberately tackled each other, equally determined to seek the decision in battle! Indeed, since the birth of fighting navies, these conditions have hardly ever been realised except in the course of the long and bitter Anglo-Dutch duel.

The only form of war throughout the whole period of history that is characterised by a continuous activity in its operations is that against commerce. Here the struggle is constant. Attacks and counter attacks follow each other throughout the whole course of the conflict.

The great war through which we have just passed does not differ in any respect from those that have preceded it. There is the same activity of the commerce-destroyers—now become submarines—the same passivity of the fighting fleets, and, as usual, the production of a theory intended to justify it—that of “the fleet in being.”¹ It seems that the incomparably greater value of the material employed—and the difficulty of replacing it—have merely added to the traditional repugnance of seamen to risk its loss. These considerations explain how it is that while we possess a rich harvest of experience as to the best methods of attacking and defending maritime transport, we are, on the other hand, lamentably lacking in the domain of *military* action in its true sense.

This fundamental characteristic of war at sea brings a grave consequence in its train. It is there that we have to seek the cause of that intellectual indiscipline which rages in all navies, and sometimes shocks those who are strangers to naval circles. But how can a tactical doctrine be derived from an experimental vacuum?

Our comrades of the Army have waged an uninterrupted battle for more than four years, in which, at the price of heavy sacrifices, they have accumulated an enormous sum total of military and technical experience. They are therefore now able, by means of legitimate analysis and synthesis, to construct their tactical doctrine on a firm base. We, on the other hand, find that so far as the sea is concerned, the end of this great struggle leaves us with all the problems that were engaging our attention before 1914 still unsolved.

The thorny question of submarines affords a remarkable example of our difficulties.

This war, in which they have been used for the first time, has brought with it a great revelation concerning them—that of their remarkable fitness for commerce destruction. Profiting by the complete surprise—and also a certain slowness of comprehension on the part of their adversary—the German submarines achieved, in this particular form of action, a prodigious success, until the time when, in about the middle of 1917, the allied navies at last made up their minds to react energetically. It was then recognised that submarines were not invulnerable, that it was better to concentrate on variable routes the immense target that commercial navigation offers, instead of scattering it on fixed routes; that our business, in fact, was to hinder the action of the submarine rather than to assist it. The resultant change of method, combined with a powerful material effort, before long brought about a check upon the upward direction of the curve of losses, and later made it fall. Owing to its brutal character, and the grave peril to which it brought

¹ Throughout this article Commandant Richard assigns a meaning to the phrase “fleet in being” that is different from that in which we understand it—the sense in which Torrington used it. Commandant Richard uses it to express a doctrine of preservation of the fleet that Torrington never intended. There is no analogy between the situation of the British fleet after Beachy Head, when the phrase was first used, and that of the Grand Fleet in May, 1916.—*Translator.*

the Allies, this submarine war against commerce has made a great impression on people's imagination. But can we say that we are better acquainted than we were in 1914 with the *military* value of the submarine? that is to say, its aptitude for destroying or paralysing the armed forces of the enemy? In this respect their action has wholly deceived those who, without believing them capable of transforming the surface of the sea into a no-man's-land, did at least expect that they would inflict heavy losses on the battle fleets, and feared that their appearance would bring about a radical change in the conditions of naval war. For, if one omits certain unfortunate accidents such as the torpedoing of the three "Cressy's," of the "Gambetta," of the "Jean Bart," and of some other allied vessels that were in reality victims of curious aberrations, one sees that their record is, in its totality, very modest. One can judge of their capacity to deny the free use of the sea to fleets of surface vessels, by the fact that on the 30th May and 1st June 1916, about 15 German submarines, chosen, doubtless, from the best, were stationed off the bases of the Grand Fleet, but did not succeed in torpedoing a single ship, either on the outward or return journeys. Let us add, impartially, that there is one category of military force in which the action of submarines proved very effective; to everyone's surprise, these small vessels have displayed a remarkable aptitude for reciprocal extermination.

Such are the facts, and it appears legitimate to draw from them the conclusion that submarines, while excellent commerce destroyers, are powerless against surface fighting fleets; that, in consequence, a navy (or a group of allied navies), possessing the undisputed mastery of the surface, has use only for a limited number of these little vessels, for certain military duties (blockade, minelaying, &c.) since it has no need for commerce-destroying or coast-defence submarines; but needs on the contrary, an illimitable number of submarine destroyers; while a precisely opposite proportion is called for in the naval group that is unable to obtain that surface mastery.

For all that we hear many voices in the Press urging, on the contrary, the provision of hundreds of submarines to defend the coasts and attack the enemy's commerce; while, in the school of thought to which the writer belongs, the coasts cannot be seriously attacked except by air, and the enemy's commerce will be suppressed if mastery of the surface by our fleet is attained.

Here is, indeed, ample material for the creation of confusion. The situation bids us recollect two elementary truths; that one does not prepare for *war*, but for *a war*¹; and that each people must have the fleet that accords with its policy.

¹ Cf. Sir William Robertson, *inter alia*, for an expression of the same truth: "Since it is not possible, and should never be necessary, to prepare at one and the same time for half-a-dozen different wars, soldiers charged with the duty of preparation should aim at making ready for the greatest and most probable war in which their armies may be engaged"—"From Private to Field-Marshal," page 132.—Tr.

The partisans of the submarine do not, of course, admit this failure of their favourite weapon. They protest that it is not enough merely to register a result of experience, but that one should also analyse that experience intelligently. And, they bring forward two principal arguments against the preceding conclusions.

The first consists in affirming that if the submarine did not actually obtain more than a moderate success against the military forces on the surface, it was because they took no notice of these weighty Dreadnoughts, these Old Testament fossils, drowsing in the furthest corners of their anchorages. This argument proves very successful in the little group of civil naval *experts*, disciples in varying degrees of authenticity of Admiral Aube, who for a quarter of a century have been annually predicting the failure of the *mastodon*; without, unfortunately, their crusade succeeding in arresting the indefinite growth of the creature both in weight and price. The refusal to pay heed to these warnings is obviously to be attributed to the lamentable lack of comprehension on the part of the professionals, aggravated by the cupidity of the makers of armour plating.

Now, it is quite true that the Germans, on principle, left our military forces alone in order to concentrate their destructive effort upon our merchant fleets. But was this strategy dictated by *contempt* of the former, or by a recognition of *powerlessness to destroy them*?

The memoirs of Von Scheer, and the first volume of the German Staff History, furnish the answer to the question. These books lay stress upon the exaggerated opinion that had been formed, by both sides, of the danger to which surface ships would be exposed by submarines. They show that the Germans had the same ideas as their enemies on the conduct of the war; that, like them, they were convinced that the essential factor of naval power resided in the battle fleet; and that the submarine war on commerce could not bring about a decisive result so long as the immense flotilla of patrol craft was in existence, itself supported on the sure foundation of the fleets of ships of the line. It may therefore be taken as certain that if they had perceived any possibility of destroying this obstacle with their submarines, they would not have omitted to do so.

If this first argument does not seem very serious, the second appears, at first sight, to have more weight. One meets many people, who, with anxious eyes go about repeating: "It is quite true that we have succeeded—not without trouble—in limiting the depredations of the submarines. But just think what would have happened if on the 1st August 1914 the Germans had possessed two hundred, instead of two dozen submarines! One must not say it too loud, but as a matter of fact, we should have been lost—simply lost!" One might speculate indefinitely as to what might have resulted if that which did not happen had happened. But, on examination, this particular argument seems to be marked by a certain *naïveté*.

Submarines zealots reason only too often as though their little

vessel cost next to nothing. But as a matter of fact its cost is a certain definite proportion of that of a battleship. Before the war two hundred 500-ton submarines ran into about the same cost as seven 20,000-ton battleships. If, therefore, on the appearance of the first British Dreadnought, Von Tirpitz, suddenly awakened to facts, with foresight stamped by the mark of genius, had divined the superlative value of submarines, he would have been obliged to abandon a great part of the battleship fleet he was then constructing in order to be able to build his two hundred submarines. It is surely reasonable to suppose that such an astounding revolution in German naval policy would not have passed wholly unnoticed. It was not from pure vanity, or love of ostentation, that the Allies, at a cost of millions, built their fleets of Dreadnoughts between 1905 and 1914; but wholly and solely to oppose those of Germany and Austria, although Sir Percy Scott seems unable to appreciate the fact. And as no one has ever proposed to use Dreadnoughts to fight submarines, it may be taken as certain that we should have been quick to cut down our construction of them when our rivals did.

Thus, we should have opposed to their submarine fleet not a double or triple number of submersibles, which would have been absurd, but a great fleet of patrol craft of every kind, of which a respectable proportion would have been submarines.

It is moreover probable that we should not have begun the war with a very insufficient destroyer force, with a ridiculous outfit of mines, without nets, without bombs, without, in fact, any effective weapon against submarines. For if the Germans had believed in that arm, all the world would have believed in it at the same time as they. Lastly, it is probable that the two hundred submarines, not possessing the advantage of surprise—an essential factor of success—would have done less harm than those we opposed with wholly insufficient means until the middle of 1917. This assertion seems justified by the fact that the allied flotillas succeeded in paralysing a far greater number of submarines in 1918.

Thus, when it is a question of estimating the military value of the only type of vessel that was used on a large scale during the late war, one finds that in the matter of submarines it is still an open question.

The situation is still worse in all that concerns the air fleet, which has played no more than a secondary part in the naval operations. All we know is that dirigibles are most valuable auxiliaries to surface fleets, although the experience of Jutland shows that it would be imprudent to rely exclusively on them for reconnaissance; and that hydroplanes acting on patrol are harassing to submarines operating near the coasts.

But as to the capability of one or other of these types of aircraft, to fight surface ships or submersibles, we are still in complete ignorance, for lack of actual war experience. Thus we cannot resist a certain feeling of surprise when our futurists affirm that the advent of this air fleet spells the death of everything that floats. It is an opinion that may be useful to discuss at some time, but it is one that evidently rests

upon no experimental proof, not even the fragile and revokable base of peace-time experiments.¹

It is thus no exaggeration to say that the great war that is just over, and from which we were expecting the solution of all those problems that were in suspense when it broke out, does as a matter of fact leave all the questions open. Far from bringing the era of controversies to an end, it promises, by intensifying these, to aggravate the intellectual crisis from which all navies have suffered during the struggle of armaments that preceded it. And this is true not only of all that concerns the employment of entirely new arms, such as aircraft, but also of the older ones. We are in a state of ignorance about the former; and as to the latter, we have had such few and short experiences that it is manifestly impossible to draw solid conclusions from them.

If, for example, we consider surface fleets, we have nothing except the experience of Jutland from which to gather tactical lessons, to establish the relative importance of the various units that enter into their constitution—ships of the line, cruisers of all kinds, destroyers. Now, throughout all its stages this battle followed the most classical form imaginable, in a manner corresponding exactly to pre-war expectations; and it is particularly disappointing to find that none of the new engines of war, submarines, airships or airplanes, whose *rôle* we so much hoped would be established, took any direct part.

What lessons for the immediate future can we hope to distil from this isolated, this incomplete experience? Common honesty directs extreme prudence when it is a question of building upon so precarious a foundation. But this reserve is particularly essential in technical matters which no longer offer any great interest, since the conclusions to which we might be drawn would be applicable only to the material which was used, and that is already out of date.

In the region of strategy and tactics one might proceed to investigate whether this battle invalidates or consolidates the accepted ideas of 1914, whether it justifies or contradicts our theories. There is still one region in which this experience maintains all its value, and it is, perhaps, that which offers the most interest; we speak of the part played by the moral forces in battle, of the influence of that permanent factor, *Man*, the primary instrument of Ardant du Picq.

The battle of Jutland, taken by itself, solves no strategical question. Rarely has a military problem been so simple as that which faced the belligerents in the last naval war. But it leads quite naturally to an examination of the views of the two adversaries as to the conduct of the war, for they had a great influence on the outcome of the engagement.

German strategy—using the term to mean the general conception of the operation—lends itself to grave criticisms. Its essential characteristic was a passivity that is truly disconcerting in a navy organised and commanded in its origin by Prussian soldiers, and therefore brought

¹ The American experiments were made after this article was published.

up in the cult of a doctrine in which unrelenting energy plays so large a part. The disproportion of force when war broke out was not so great that the German High Command could not legitimately hope, by some fortunate engagements, to break down the narrow margin of superiority possessed by the Grand Fleet. Between the 1st of October, 1914, and the 1st April, 1915, the German seamen, through inertia, sacrificed their best chances of success. At these two dates, Lord Jellicoe estimated the relative strengths as follows :—

	Dread-noughts.	Pre-Dread-noughts.	Battle Cruisers.	Light Cruisers.	Destroyers.	Air-Ships.
1st Oct., 1914	ENGLISH	20	12	6	12	42
	GERMAN	15	16	3	14	88
1st April, 1915	ENGLISH	21	8	6	17	44
	GERMAN	16	16	4	12	88
						6

Admiral Jellicoe justly remarks that this mere statement of figures does not afford an accurate idea of the situation, for the Germans, possessing the initiative, and therefore the selection of the moment for attack, could always arrange that the whole of their forces were available on the date fixed, while the English were obliged by necessity, over which they had no control, to have at least two battleships, one or two light cruisers and sometimes a battle cruiser, simultaneously unavailable in consequence of docking and repairs.

Lord Jellicoe expresses his surprise that the Germans did not profit by a situation so favourable to themselves, and attempt to injure the Grand Fleet by drawing it into a trap in which mines and flotillas, both submarine and surface, would play a part, and so redress the unfavourable balance of strength. One can but associate oneself with him in his surprise, and sympathise with the anxiety he suffered during this difficult time, when a German naval success, even of a temporary nature, might have had such grave moral and military consequences.

The German High Command was certainly unequal to its task during the first months of the war. It allowed itself to be influenced by the legendary British power, it lacked boldness and imagination, it did not know how to use the trumps it held, and it finally allowed the favourable moment to go by. After the spring of 1915 the gap between the two fleets began to widen rapidly, and, before long, became so great that all danger to the allies disappeared.

Admiral Jellicoe attributes the German inactivity to two principal causes. First, the fear that a naval action would weaken their fleet to a point at which it could not maintain the mastery of the Baltic, which would expose them to the danger of a Russian landing in Pomerania.

"The second point," he writes, "no doubt, was that the German High Command realised that, if Germany adopted a defensive rôle with her fleet, it created by far the most difficult situation for us. Repugnant

as this might be to high-spirited German naval officers, it was unquestionably the worst policy for us, for, whilst the German High Sea Fleet remained 'in being' as a fighting force we could not afford to undertake operations tending to weaken our Grand Fleet, particularly in the earlier period of the war when our margin of superiority at Germany's selected moment was not great."

If the first of these arguments is really of importance, we must say that we do not follow the sense of the second.

Quite evidently it is better to exist, even in an inert condition, than to cease to exist altogether. One understands, therefore, that a fleet whose material inferiority is such that any battle can have no other result than its destruction, prefers to remain in its harbours rather than go out and commit suicide to no purpose. Do not let us allow ourselves to simplify the situation to excess by declaring peremptorily that, in such conditions, it would be better to take up savings for a navy. From the mere fact of its existence, a fleet constitutes a hindrance, a latent menace, sometimes tending to make a too timid enemy immobilise military forces at home which could be better employed elsewhere. Such was certainly the case of the German fleet in the beginning of 1916. We should gravely misunderstand the importance of its rôle if we forgot that it maintained its command of the Baltic up to the end of the war, even succeeding in lending very efficient assistance in 1917 to the operations of the German army against Riga; and that it led the British Staff to retain several divisions at home through fear of an invasion.

But was it not possible for it, in the first months of the war, profiting by its excellent strategical situation on interior lines, to be more ambitious, and resolutely to attack the principal enemy, since there was no reason to fear its junction with the Russians?

The destruction of the German fleet in a pitched battle, soon after the first days of the war, would assuredly have afforded the Allies the most simple, and most complete, solution of the problem of naval supremacy, and one could easily understand that Lord Jellicoe approves the conduct of the German strategists in evading an action if, in his opinion, such an action must necessarily bring about the destruction of their fleet. But as he himself recognises that such an action, fought at that time, under certain conditions, might offer the Germans respectable chances of *success*, one finds it difficult to understand how he can praise them for having adopted an attitude that served the interests of their enemy by affording him the delay essential for increasing his material superiority to a point at which, towards the end of 1915, it became crushing.

We persist, therefore, in our belief that the Germans adopted the worst policy, not for their enemies, but for themselves; for they could have sacrificed a large part of the High Sea Fleet without any risk of losing supremacy in the Baltic; and that the Allies would have been made to suffer many hours of anxiety elsewhere than on the banks of the Yser and the Marne if the German fleet had shown more enterprise

and activity, if the admirals who commanded it had had more confidence in themselves and in the fine instrument of war they had produced. But the fact that we find the theory of "the fleet in being" receiving sanction from so high an authority invites us to make serious examination of the question. It is not so simple as some people appear to think, and it is not enough to dismiss it with a summary judgment. We suffer from the mania of wishing to apply to a navy the precepts that govern the action of armies. Thus, every good course of naval strategy begins with the enunciation of some such a sentence as this: "The *aim* of war is to impose one's will upon one's adversary; the *means* is the destruction of the enemy's organised forces of battle." It is then added that this axiom has been formulated by Clausewitz, which never fails to make a deep impression on the audience, for the prestige of the German military doctors survives the defeat of their country.

But if one examines the matter closely, one sees that this axiom, when applied to naval war, has an uncomfortable result, for the saying presupposes that *one possesses the power of forcing a battle*. As it happens, however, action at sea can only take place when both parties desire it, to a greater or less degree; at least one of the adversaries must be willing to face the risk of a battle by putting out into open water.

If, therefore, naval force had no other means of exerting its influence than the battle, or if this governed all its other means of utilising itself, it would often run a very great risk of being useless.

It would therefore be wise to begin by asking this simple question "By what means is naval power able to attain the final end of war, which is to impose one's will upon one's enemy?"

Fighting fleets can, in the nature of things, only pursue four objects:—

- I. To break an enemy's communications.
- II. To attack an enemy's maritime frontiers, either alone or in conjunction with military forces.
- III. Assure the security of the national maritime lines of communication.
- IV. Defend the national maritime frontiers. The two former of these represent the offensive part of their function, the two latter the defensive part.

As it is generally agreed that naval action by itself against an enemy's coasts promises but little results; as moreover the transport and revictualling of an invading army is, for the navy, purely a problem of the security of communications; as, also, the enemy's coasts are capable of defending themselves: so one may say that the essential objects of naval power can be expressed in the simple formula "Maintain in security the national maritime communications; prevent the enemy from using his." There we have, clear and distinct, the double and fundamental means by which naval war attains its end.

The destruction of the enemy's organised fighting forces (in which vessels employed in cruising independently against trade are not included) is not, whatever be their constitution, a *necessary* condition to attain this result. It might even, in certain circumstances, not be *sufficient*. There is no paradox in this. On the morrow of Tsushima the Japanese had virtually destroyed the whole Russian fleet, but for all that they would have been hard put to it to interrupt the maritime communications of Russia with nine-tenths of the civilised world. One could easily imagine other cases of a like nature.

Thus the conditions of naval war are such that battle cannot be *forced* on an enemy, and that the destruction of the enemy's forces may be on the one hand not necessary, and on the other not even sufficient, to produce one of its essential results.

Thus it is no matter for surprise that at all times theories have been brought into being to illustrate the vanity of battles. That of "The fleet in being" marks the survival of a very old idea based upon a philosophical foundation derived from the very nature of war at sea.

One cannot say that this theory is radically false. It is founded upon certain qualities peculiar to naval war: everything depends upon the manner in which it is interpreted.

When applied to the German fleet in the period before the autumn of 1915 it appears to us open to objection, because at that time the fleet, with a little boldness and energy, might hope to restore, at least to some extent, its national communications and interrupt those of its enemies by disputing the mastery of the surface of the sea.

During the two last years of war, on the other hand, this theory was well adapted to the then situation of Germany, provided the fleet gave evidence of its existence by an untiring activity, acting in co-operation with its commerce-destroying vessels. The submarine war against commerce has revolted the universal conscience of mankind owing to the brutal manner in which it was carried out, and it amounted to a grave political error; but in principle it was rational. The German navy, unable to maintain its own communications, was at least obliged to try to break those of the allies by every possible means.

But can one maintain, inversely, that the British fleet could properly avoid battle so long as German activity was confined to objectless raids in the North Sea? This view was vigorously and ably supported, immediately after the battle of Jutland, by Mr. Churchill, in an article in the *Saturday Review*. Taking into consideration the danger the Grand Fleet ran in a battle fought far from its own bases, in waters chosen and organised by the enemy, transformed into a trapwork of mines and submarines, Mr. Churchill makes a glorified picture, in fine literary style, of Lord Jellicoe hastening to Horn's Reef at the call of the gun. In this he describes a manifestation of power, a stately demonstration of the naval supremacy of the British Empire; for, said he, this battle was not necessary, nothing obliged the Grand Fleet to run risks by fighting. And, in the enemy's camp, we see a distinguished German officer advancing

precisely the same argument under a different form, and approving Lord Jellicoe's actions in not getting closely engaged and of having broken off the chase of the beaten Germans during the night of the 31st May. The argument is identical on each side: from the roadstead of Scapa, by its presence alone, by its potential energy, the Grand Fleet dominated the North Sea. There was no need to fight a battle nor to destroy the German Fleet. This is an example of the theory carried to its complete length, and made applicable not only to the German, but also to the English; it is based upon purely geographical considerations.

In the case of the English the theory appears to us to be false, because the destruction of the German Fleet was, in this particular case, a necessary condition to attain the true objects of naval power.

If Russia had not been an ally, and her army a factor of capital military importance, the view would have been capable of support, the advantages that Germany derived from her supremacy in the Baltic being negligible. But actually Russia was in a state of paralysis, was threatened with suffocation; and it was of the highest possible interest to us to revivify her army, to provide her with quantities of weapons, munitions and equipment, of all of which she stood in need in order to be able to make use of her vast human resources.

We do not pretend that the precariousness of the maritime communications was the sole cause of her final decomposition; but it contributed to it. The ill could not be remedied except by getting control of the Black Sea or the Baltic.

At the end of 1915 we had just failed at the Dardanelles. There was another door to Russia: the Baltic. The destruction of the German fleet, a matter indifferent in itself, was a condition absolutely essential for the purpose of re-establishing communication with Russia by that line of passage. It may be said that this would not have sufficed, because even in the most favourable hypothesis, we should never have succeeded in completely destroying the High Sea Fleet. To that we reply that if, on May 31, 1916, the British fleet had sunk no more than eight German Dreadnoughts, even at a loss of an equal number of its own, there were still in the entrance of the Adriatic eighteen allied battleships, of at least 19,000 tons each, employed in holding in check four unfortunate Austrian Dreadnoughts who showed no particularly enterprising spirit.

A conclusion seems to arise out of all this. The theory of the "fleet in being," which amounts to a theory of the uselessness of battle, is not absurd in itself, since in naval war, the destruction of the organised forces of the enemy does not, as on land, constitute the sole, necessary and sufficient means of imposing one's will upon one's enemy. Battle, always desirable, is of use only to the extent that the destruction contributes towards attaining the double object which constitutes the true method of action of naval force: maintenance of the security of its own communications, breaking those of the enemy.

Before leaving this subject a word must be said of the part played by geography in naval war. The Germans lay great stress on the

disadvantages of their position in the South East Corner of the North Sea. There is no doubt that it contributed to increase their inferiority to the English and made the task of the latter the lightest. But one must not overestimate the importance of mere situation. Let us reverse it, giving the Germans the British fleet and vice versa. Their first thought would have been to look for a base in the British Islands, and they would certainly have had little difficulty in seizing Scapa or establishing themselves in some Irish Bay. Masters of the situation they would not have committed the error of leaving Dunkirk, Calais and Boulogne alone. Do not let us attach undue weight to the advantages of geographical positions by themselves.

Another reflection arises out of this. In our catalogue of principles—principles sometimes expressed in too absolute a manner—we find one that demands some judgment for its rigid application: the principle that geographical objectives have no place in true strategy. This is no longer true on land, where the conquest of a mining area, or of an industrial region, may gravely compromise an enemy's capacity of resisting: nor does it apply any better to the fleets of to-day which, even if there were no submarines, would find it difficult to exist in normal times except at anchor, because of the risk of wearing out both personnel and material, without taking into account useless expenditure of fuel. The capture of auxiliary bases, near those of the enemy, and the occupation of certain observation points, will often be the first steps a fleet will have to take in order to be able effectively to exercise the great, the true measure of naval power, Blockade, in the full and exhaustive meaning of the word.

(to be concluded.)



THE CRUISE OF THE "WOLF."

Translated, by permission, from the "Rivista Marittima," July, 1921.

THE "Wolf" was a steamer of 6,000 tons burden, with a length of 442 feet over all and a beam of 56 feet. She was armed with seven 15 cm. guns and four torpedo tubes. Under the command of Commander Nerger she left German waters on 30th November, 1916, with orders for an extended cruise, the Indian Ocean being particularly mentioned, with the object of attacking enemy commerce. She was not to limit herself to an ordinary attack on the enemy's trade, but she was to lay mine fields wherever possible and for this purpose carried some hundreds of mines.

In the North Sea fine weather was met with at first, and she was able to make good her top speed—10 knots; but in the northern portion she ran into very heavy weather, and owing to her deeply laden condition, her speed was reduced to 7 knots. The bad weather, however, favoured her in that it was a great handicap to the British Patrols, and she reached the Atlantic on December 10th without any adventures. The slight damage to upper works, which had been inflicted by the storm was soon repaired by the Dockyard workmen who formed part of her complement, and who were to prove their value in the long months of the cruise.

Many steamers were met with as the "Wolf" crossed the various routes between America and Europe, but every endeavour was made to avoid giving any reason for suspicion; the upper works and rigging being made to look like those of an ordinary cargo ship.

On 16th January, in South African waters, a convoy of seven large transatlantic liners was met, in all probability carrying the Australian troops to Europe. The question of attacking was being considered when an escorting armoured cruiser hove in sight and the "Wolf" held on her course unsuspected. That night she laid her first mine field in the waters of Cape Colony, and rounding the Cape, headed for the Indian Ocean, making every endeavour to keep out of the ordinary lines of traffic.

A W/T message from Cape Town was intercepted on the 27th January, warning ships of the presence of submarines in those waters. It seemed impossible that the Germans should have penetrated the Ocean thus far with their under-water craft, but the mystery was solved later when questioning some prisoners who said that the "Aquitania," of 46,000 tons, with 10,000 Australian troops on board had been mined there.

On arrival in the Indian Ocean the ship was stopped for a short period to effect some repairs to the engines, after which course was shaped for Ceylon. She arrived off that island in the middle of February,

having encountered a typhoon on the way, but in her lightened condition she was able to weather it much better than the storm experienced in the North Sea. Mines were laid off various points on the Indian coast, and principally in the approaches to Colombo and Bombay. While laying mines off the former of these places she was lit up by two searchlights, but was not apparently discovered. On this field the "Worcestershire," of 7,000 tons, was blown up next day, and the "Perseus," of the same size, about a week later; several others followed them during the next month, and the "Mongolia" was sunk in June.

At the news of the first sinking on the Bombay field being received, the W/T station at that port signalled that the port was closed until such time that the necessary sweeping could be carried out.

On 2nd February, between Aden and Colombo, the "Turritella" was met with and stopped. She was found to be the ex-German "Gutenfels," who had been in Alexandria at the beginning of the War and had been taken over by the British. The party sent on board her stated that she could easily be adapted for mine laying, so it was decided to make use of her, renaming her the "Iltis." Her original complement of Chinese remained on board and a prize crew of a lieutenant and twenty-seven seamen were sent to her; the British officers being transferred to the "Wolf." A W/T set and a 5 cm. gun were placed in her.

During this operation the aeroplane "Wolfchen" was sent up on scouting flights. Nothing having been sighted from a height of 4,000 metres the operation was carried out without interruption. In the evening the "Iltis" proceeded to the westward to lay mines in the Gulf of Aden, with orders to rendezvous with the "Wolf" a few days later.

On 1st March the steamer "Jumna" was sighted at dawn, bound for Calcutta with salt. As she did not obey the signal to stop a shot was fired across her bows. In doing this an accident occurred at the breech of the gun, killing four men and wounding twenty-four others, and causing some damage. Coal was taken from her and her crew removed after which she was sunk by bombs.

A W/T message was received shortly after this warning all ships in the Gulf of Aden to keep in depths of 100 fathoms, from which the satisfactory news that the "Iltis" had successfully performed her mission was deduced. With less satisfaction was a message intercepted giving an exact description of the "Wolf," and even mentioning her aeroplane. The only explanation of this was that the "Iltis" had been captured and that her Chinese crew had described what they had seen. It was not, therefore, considered necessary to await the rendezvous with her, nor safe to remain in those waters, so course was shaped to the southward.

Shortly afterwards the "Wordsworth," of 7,000 tons, with a cargo of rice, from Rangoon for London, was met with and sunk. Her crew were taken on board and course to pass to the south of Australia continued. The "Dee," an eastward bound sailing vessel, was met with in these waters and duly sunk.

The "Wolf" remained between Tasmania and New Zealand searching

for meat ships and colliers, as anxiety was being felt for both these commodities and it was hoped that the traffic would still be using that route from Australia to South America. After several fruitless weeks the decision was made to proceed northward, round the Antipodes Islands and north of Bounty Island to the eastern entrance of Cooks Strait. Still no ship was seen. A W/T message was received informing the world of the entry of the U.S.A. into the War. The ship passed round the north of New Zealand, but still the "Wolfchen's" frequent flights were barren of result. On May 22nd it was decided to go to the uninhabited island of Domenica to make good repairs to the engines, an operation which took six days. On the 27th, when the first boiler was just being lit up, a steamer was sighted to the northward, and as it was impossible to steam on one boiler, the "Wolfchen" was sent out to drop orders on the steamer directing her to steam towards the "Wolf."

This was most successful, and by the evening the prize was anchored close to the "Wolf." She proved to be the "Wairuna" of New Zealand. The next two days were passed in transhipping coal to the extent of 1,200 tons, the amount will give an idea of how important such a capture had become. The "Wairuna" was on her way to San Francisco and England and had a cargo of foodstuffs, which were also of great value for there were already a large number of prisoners in the "Wolf" and the dull monotony of their life demanded the greatest care for their good health.

While the "Wairuna" was being sunk a sailing ship, the "Winslow," from Sydney to Samoa with coal and bricks was captured. The latter were most opportune as the walls of the boilers were in need of repair. Her crew were then taken on board and she was sunk. They told tales of the general nervousness that the exploits of the "Wolf" and her mine fields had caused.

More mine laying was carried out in Tasmanian waters, and on 6th July a W/T message from the "Cumberland," calling for help was intercepted, the ship having struck a mine ten miles from Cape Gabo. From further messages between this ship, Sydney and a Japanese cruiser it was found out that she was a ship of 9,000 tons with a cargo of meat for London. At this period, the British, not being prepared to admit the possibility of mine laying operations in such distant waters as these, were attributing the disasters to internal explosions caused by an anarchist organization known as the "International Workers of the World." They offered large sums in reward for the apprehension of the authors of any similar enterprises. Ships were lost on the mine fields off Cape Colony up to September, off Bombay up to the end of July, and off Tasmania as late as November, 1917.

The "Wolf" now steamed towards the island of Ofiji and intercepted the American sailing ship "Beluga" with a cargo of petrol, which was most useful for the aeroplane. This ship was sunk by gunfire after petrol had been poured over her and she had been set on fire. The crew, who had been taken on board, included the wife and child of the captain,

and suitable accommodation for them had to be arranged in the "Wolf."

Another American sailing ship, the "Encore," with wood from North America to Sydney, was met and treated in the same manner as the "Beluga."

Continuing her course past Ofiji and the Solomon Islands, the ship passed through the waters of German New Guinea, and in this neighbourhood, on 27th July, a W/T message in plain language was heard which enabled her to intercept the "Matunga," on passage from Brisbane with 500 tons of best coal and 340 tons of mixed cargo. She had on board numerous passengers, including some Australian soldiers, two military doctors, one of whom was on his way to take over temporarily the governorship of Rabaul.

The soldiers were transferred to the "Wolf" at once, the rest were left on board till the ships should reach an anchorage in New Guinea, where the operation of transhipping cargo could be carried out with ease. This cargo was of great value to the "Wolf," for in addition to the coal it contained foodstuffs of every description, wine, spirits and personal comforts. The operation of transhipment took two weeks, during which the repairs to the boilers were completed, and wooden shelters were built for the better accommodation of the women, of whom there were several, two more having been taken on the "Matunga." The operation finished, the prize was taken to sea and sunk.

The "Wolf" passed through the waters of the Dutch Colonies in the early days of September, and more mine fields were laid in the vicinity of Singapore. One night when the moon was full she met a small British cruiser of the "Juno" class, but was not suspected. The mine laying being finished, the "Wolf" passed through the Guava Sea and Torres Strait once more into the Indian Ocean, and course was shaped to the south-west, without meeting either men-of-war or merchantmen.

On 27th September, smoke was reported astern, and the aeroplane reported a cargo steamer steering the same course as the "Wolf" and doing about twelve knots. The "Wolf" waited for her, but when she came up she failed to obey the signal to stop, and it was necessary to resort to the guns. Fire was directed on a shelter amidships, which apparently screened a gun, and as a result twenty Japanese seamen were killed. The vessel turned out to be the "Hitachi Maru," with a cargo valued at fifty million marks, comprised of gum, rice, silk, flour, brass and copper.

In order to keep all this and to provide accommodation for the very numerous prisoners, Commander Nerger decided to retain the "Hitachi Maru" with him. The ships therefore proceeded to the deserted anchorage of Atolli to make the necessary arrangements. The operation took three days during which time the "Wolf" dismantled her mine laying apparatus (all the mines having been laid). She then left harbour to search for fresh prizes, colliers in particular, coal now being needed for two instead of one. The search was fruitless and, having sent a W/T

message to the "Hitachi Maru," who had been left in harbour, to rejoin her she proceeded towards Madagascar with hope of better fortune on the Cape Trade Routes. Still no ships were seen and it was found necessary to give up the "Hitachi Maru." Once more a deserted anchorage was made use of for the transference of the prisoners and the most important part of the cargo; an operation which took three weeks.

During this time frequent messages from the Japanese Cruiser, "Tsushima," who was awaiting the "Hitachi Maru" in Cape Town were received.

Lengths of silk were found to be part of the cargo, and these were used for refitting the wings of the aeroplane, which after more than sixty flights, was in need of a thorough refit. Commander Nerger stated that the aeroplane was of the greatest value, in that its reconnaissances enabled him to avoid any chance of surprise. The organization of the crew was such that it was possible for the machine to be hoisted out or in within a very few moments of the order being given or of her return from a flight.

The cargo of the "Hitachi Maru," having been taken on board she was sunk and the "Wolf" proceeded on her course to the southward, anxiously on the look out for coal. When in the vicinity of Durban she had the good luck to meet a neutral, the Spanish steamer, "Igotz Mendi," with 7,000 tons of coal on board. A prize crew was sent on board to take her to a harbour, where the "Wolf" could be coaled. The "Igotz Mendi" had been sent to India by the Spanish Government for jute, but the British Government had insisted on her being sent to Delagoa Bay for a cargo of coal, much needed in India, before authorizing her to proceed.

It was decided that the "Igotz Mendi" should follow the "Wolf" as a tender, and the prisoners were divided up amongst the two ships. There were now some 400 of these, comprising twenty-two different nationalities. The principal anxiety was the care of their health, and the two German doctors had hard work. While in the Equatorial regions precautions against plague had to be taken; quinine was regularly served out as a precaution against malaria; the prisoners from the "Hitachi Maru" had introduced typhus and this necessitated the inoculation of the whole crew; steps were taken to prevent the outbreak of scurvy; and special measures were introduced to ensure personal cleanliness, a daily bath being made compulsory for all.

The food for the crew and the prisoners was prepared together, with the exception of that for the Japanese, who had shown themselves unable to get accustomed to European methods. Commander Nerger, by his treatment, secured complete harmony on board, and such trouble as did occur was between the prisoners themselves, particularly among the British and Japanese. The Australians appeared to have the greatest difficulty in putting up with the proximity of the Japanese, for whom they entertained the most lively antipathy.

The English were by this time accustomed to their life of constraint

in the "Wolf," but often, in conversation with the Germans, expressed surprise that so much trouble should be taken in the collection of cargo when they would never be able to escape the vigilance of the British patrols on their return. The most certain of all was the captain of the "Turritella," an Australian, who was counting on a tour round England after the capture of the "Wolf." But when she finally arrived in Kiel without misadventure or encountering any signs of the British vigilance he showed the greatest bitterness towards his Mother Country and accused her of bluffing: "Where is the Grand Fleet? Where are the boasted resources that are going to bring Britain victory? All bluff, to lead us by the noses and make us shed our blood for her." Commander Nerger stated that when it came to landing the captain of the "Turritella" asked for a civilian coat, as he could not bear to be seen in a British uniform.

The "Wolf" once more rounded the Cape, and on 30th November stopped a large American sailing ship, the "John H. Kirby," carrying a cargo of motors to Port Elizabeth and Port Natal for the military operations in Cape Colony. The weather precluded any attempt at transhipment of cargo, and so the ship was sunk after the crew had been taken off. The two ships now set their course for America, and on 15th December a French sailing vessel with a cargo of wheat from Australia to Darkar was met. She had two 9 cm. guns and was fitted with W/T, but appeared unable to use either. Fresh provisions were taken from her, the crew removed and she was sunk.

On 20th December, the question of running into Trinidad to find an anchorage where the "Wolf" could be coaled was considered, but intercepted W/T message showed that the island was occupied by the military, and furnished with W/T linking up with the station at Fernando Noronha. The idea then had to be abandoned and the operation had to be performed at sea. Only 500 tons was taken in as the long ocean swell rendered it dangerous for the ships to lie alongside.

The end of 1917 saw the "Wolf" and her tender heading northwards. On 4th January a sailing ship was sighted, and in reply to the "Wolf," who had shown British colours and a false name, she showed Norwegian colours and the name "Storo Broro," on passage from Beira to Montevideo. After parting from her it was found from Lloyds Register that she was originally a British ship who had changed her colours at the beginning of the war for safety, so the "Wolf" returned to her and, examination proving this to be correct, the crew were taken off and the ship sunk.

North of the Equator continuous bad weather was experienced, and the hull commenced to show signs of strain, especially where damage had been sustained by the ships bumping together during the recent coaling on the Equator. The operation had to be performed once more, however, before entering the approaches to the British waters.

Only two steamers and one sailing ship were met with, but it was considered better to leave them alone, and the ship arrived in Kiel on

17th February 1918, without meeting any British forces. She had been away 451 days and had covered 64,000 miles.

Including the losses caused by the mine fields laid by the "Wolf" the Germans put the damage she had done at 210,000 tons, which nearly equalled that (280,000) achieved by all the commerce destroyers at the beginning of the War. Thus is shown, they say, what can be done by a determined seaman in the most difficult circumstances, who is prepared to make every sacrifice for his country.



THE CAMPAIGN OF GALLIPOLI, 1915-1916.

By MARSHAL OTTO LIMAN VON SANDERS.

(Abridged from *Im Felde Unbesiegt.*)

THE Gallipoli campaign resulted from the efforts of Great Britain and France to force the passage of the Dardanelles and the Bosphorus, in order to gain a direct route for the despatch of Russian troops, supplies, and raw material to the West, and of material of war from the West to Russia; and also in order to cut the communications between the Central Powers and Asiatic Turkey. No less than 100,000 British, apart from the French contingent, were employed in this operation, which was preceded by an unsuccessful attack by the Entente fleet on March 18th, 1915—an attack resulting only in the loss of several capital ships and a large number of small craft.

In order to follow up their attempt and effect a disembarkation at the mouth of the Straits, a force of 80,000 to 90,000 Allied troops, under General Sir Ian Hamilton, was assembled on the islands of Lemnos and Imbros.

In view of these facts, Enver Pasha had, on 25th March, 1915, formed the Fifth Turkish Army (consisting at first of the five divisions stationed on either shore of the Dardanelles, and reinforced early in April by the 3rd Division sent up by sea from Constantinople) under the command of the head of the German Military Mission in Turkey, Marshal Liman von Sanders. Two divisions of this Army were held ready in each of the three sectors considered to be especially menaced; the Gulf of Saros, the southern end of the Gallipoli peninsula and the Asiatic coast. Outposts watched all the line of the shore.

The British landing took place on 25th April under cover of the guns of the Allied fleet, which heavily shelled all the coast from Kum Kale to Ari Burnu. Over 200 men-of-war and transports, with a far larger number of pinnaces and smaller vessels, were counted by the Turkish artillery observers. The main attack was accompanied by feints delivered simultaneously against the Gulf of Saros and Besika Bay.

As soon as the landing parties were seen to be approaching the shore, the forward Turkish posts opened fire, and the main bodies in rear were brought forward. On the south flank the French got on shore at Kum Kale, but were finally driven back to their ships by the 3rd Turkish Division on 29th April, after four days' fighting. Picked English troops established themselves on the southern end of the peninsula at Sedd-ul-Bahr, despite heavy losses. Trench lines were finally constructed by both sides across the narrow strip of land; the two Turkish divisions from the Gulf of Saros, and the majority of the

3rd Division from the Asiatic shore was brought up, and this sector continued for months to be the scene of heavy fighting. An attempted landing at Gaba Tepe, on 25th April, was beaten off, but the Anzac Corps conquered and held a small strip of the coast to the west of Ari Burnu. Here, again, repeated attacks made no important headway against the Turkish defences.

The British, therefore, had recourse to a new landing on a large scale in the Anafarta area, north of Ari Burnu. Five fresh divisions were set ashore on the evening and night of 6th August; only weak detachments, under the command of the Bavarian Major Willmer, were watching the coast here, but their bold front gave the reinforcements, hurried up from the Gulf of Saros, from the Asiatic coast, and from all other sectors where any were available, time to garrison the commanding heights to the east of Suvla, and after 11 days of battle the British attack was checked. It had cost them 15,000 dead and 45,000 wounded.¹

The German contingent with the Turkish Army, increased from some 70 men in April to over 500 in August, acquitted themselves magnificently in these difficult and hard-fought operations.

Fighting continued throughout the late summer and autumn. The Allies, realizing the lack of success and the costliness of the campaign, and fearing for their troops now that the road was opened for the despatch to Turkey of war material and reinforcements by the Central Powers, resolved to withdraw their forces. On the night of 19th-20th December, under cover of a thick mist, they evacuated their Anafarta and Ari Burnu positions. The Turks occupied the British front trenches as soon as it was realized that they had been abandoned, and gradually the whole front was pushed forward to the coast. Fog, gun fire from the hostile fleet, wire entanglements, and land mines prevented the Turks from advancing quickly enough to molest the British embarkation, which was carried out systematically, and was facilitated by the short distance to be traversed between the forward trenches and the shore.

On the night of 8th-9th January, 1916, Sedd-ul-Bahr was evacuated in a like skilful manner, after heavy losses had been caused the Allies by an attack on 7th January against their left flank.

At all these points much war material was left behind by the British and fell into Turkish hands.

The eight and a-half months' fighting on the Gallipoli Peninsula had cost the Fifth Turkish Army 218,000 casualties, including 66,000 dead.

¹ These figures are at least 50 per cent. too large.

NOTE ON THE FRENCH EFFORT DURING THE WAR.

(Extracted from "Les Archives de la Guerre.")

THE following figures are not official but have been compiled from various sources. An attempt has been made to obtain as great a degree of accuracy as possible pending the publication of official totals; but the results can of course only be regarded as approximate and as giving some idea of the French recruitment and casualties between 1914 and 1919.

I.—NUMBERS MOBILISED.

The total numbers mobilised in France between 2nd August 1914 and 1st January 1919 amounted to 8,410,000 men, of whom 195,000 officers and 7,740,000 other ranks were French born; 260,000 natives of North Africa; and 215,000 Colonials.

(a) *French Born.*

Of these 7,935,000 French born officers and men, 93,000 officers and 817,000 other ranks formed the standing army in peace time. These were reinforced subsequent to mobilisation as follows:

Reservists, called up on Mobilisation, Aug. 1—15, 1914 ..	2,887,000
1914 Class, called up Aug. 16—Sept. 30, 1914, and other categories ..	1,099,000
1915 Class, called up Oct. 1, 1914—Jan. 31, 1915, and other categories ..	1,017,000
1916 Class, called up Feb. 1—June 30, 1915, and other categories ..	624,000
1917 Class, called up Jan. 1—June 30, 1916, and other categories ..	731,000
1918 Class, called up Apr. 1—Dec. 31, 1917, and other categories ..	407,000
1919 Class, called up Jan. 1—Mar. 11, 1918, and other categories ..	260,000
Add Standing Army in August, 1914 ..	817,000
	7,842,000

Of these 102,000 were given commissions during the course of the War, thus bringing the total of officers up to 195,000 and that of other ranks to 7,740,000.

(b) *North Africans.*

These were composed as follows :—

Algerians	..	..	..	..	176,000
Tunisians	..	..	..	..	50,000
Moroccans	..	..	..	..	34,000
					—
					260,000

(c) *Colonials.*

These consisted of :—

Senegalese	..	..	..	..	136,000
Malagaches	..	..	..	..	34,000
Indo-Chinese	..	..	..	..	42,000
Somalis and others	..	..	..	..	3,000
					—
					215,000

2.—PERCENTAGE OF POPULATION MOBILISED.

The population of France at the outbreak of War is estimated roughly at 39,700,000, of which adults are reckoned at 20,931,000 (13,169,000 men and 7,719,000 women). France thus mobilised during the War practically 20 per cent of her *total* population and 61.5 per cent. of her *male* population. These may be divided into eight categories of trade or profession as under, with the proportions of the fighting forces furnished by each several category added :—

Category.		Percentage of Army.
Agricultural	..	45.30
Industrial	..	29.44
Commercial	..	10.60
Domestic Services	..	0.30
Professional Men	..	2.62
Mining	..	2.11
Civil Services	..	2.78
Transport Services	..	6.85

It will be seen that the dictum that "the backbone of the French Army was the French peasant," is justified by the above table.

3.—STRENGTHS OF THE ARMIES AT VARIOUS DATES.

The following table gives the ration strength of the French Armies in the West and in the East at various dates :—

		West.	East.
August 15th, 1914	..	2,689,000	—
July 1st, 1915	..	3,623,000	38,000
January 1st, 1916	..	2,752,000	98,000
July 1st, 1916	..	2,863,000	134,000

			<i>West.</i>	<i>East.</i>
January 1st, 1917	..	..	2,802,000	185,000
July 1st, 1917	..	..	2,789,000	216,000
September 1st, 1917	..	..	2,661,000	223,000
January 1st, 1918	..	..	2,667,000	234,000
July 1st, 1918	..	..	2,653,000	264,000
November 1st, 1918	..	..	2,619,000	227,000

4.—COMBATANT STRENGTHS AND DISTRIBUTION BY ARMS.

Below are figures showing combatant strengths and distribution by arms at various dates:—

	May 1st, 1915	July 1st, 1916	Oct. 1st, 1917	Apr. 1st, 1918	July 1st, 1918	Oct. 1st, 1918
Infantry ..	1,526,000	1,477,000	1,141,000	1,035,000	997,000	851,000
Cavalry ..	100,000	93,000	71,000	62,000	85,000	68,000
Artillery ..	394,000	494,000	521,000	560,000	539,000	601,000
Engineers ..	104,000	125,000	120,000	120,000	119,000	117,000
Air Force ..	8,000	35,000	35,000	44,000	48,000	51,000
Total Com- batants ..	2,132,000	2,224,000	1,888,000	1,821,000	1,788,000	1,688,000
Non-Com- batants ..	101,300	273,000	310,000	472,000	418,000	555,000
Staffs and Services ..	242,700	273,400	294,000	313,000	314,700	295,700
Details ..	46,000	101,000	70,000	70,000	102,000	94,000
Grand Total	2,522,000	2,871,400	2,562,000	2,676,000	2,622,700	2,632,700

5.—DISCIPLINE.

The following figures of disciplinary cases are of interest:—

Condemnations for Desertion ..	..	..	46,072
Condemnations for Leaving Post ..	..	..	18,238
Condemnations for Mutiny ..	..	..	1,164
Death Sentences carried out ..	..	..	1,627

6.—RECOVERY OF SICK AND WOUNDED.

Statistics taken at various periods go to prove that of every 100 men wounded or sent down sick, 1 died, 8 became unfit for further service, 3 became fit for home service only, and 88 became fit for the front (62 of

these in one month's time on an average, and the other 26 in five months' time). About 20 became fit in less than one month and only 3 took seven months or more before being completely cured. These figures reflect the highest credit on the medical services of the French Army.

7.—CASUALTIES DURING THE PERIOD OF THE WAR.

The French losses during the period from August 4th, 1914, to November 11th, 1918, are given below. The figures there given are those of men definitely lost to the army, and do *not* include the wounded who returned to the ranks.

Killed, Died and Missing.

Category.		Numbers.	Percentage of Total Enlisted.
Officers	Combatant	34,500	22
	Non-Combatant	15,500	15
	Total	50,000	18.5
Other Ranks (French Born)	Combatant	1,221,000	15.75
	Non-Combatant	25,000	2.75
	Total	1,246,000	9.25
Natives		72,000	15
Grand Total		1,354,000	14.1

To these must be added some 29,000 officers and men who died subsequent to the armistice from wounds and sickness incurred during the War.

The addition of this figure brings up the total to 1,383,000, and the percentage of killed, died and missing to total enlistments to 16.1.

To obtain the full total of *definite* losses we must count in with the above:—

506,500 Prisoners.

800,000 Invalided out of the Service.

The full total of *definite* losses thus becomes 2,689,500, which represents 32 per cent. of the numbers mobilised.

8.—CASUALTIES BY ARMS.

The following table gives the French casualties by arms during the War. Killed, died and missing only are dealt with:—

Arm.	Casualties.	Number Mobilised.	Percentages of Casualties to number Mobilised.
Infantry ..	1,186,060	5,157,600	26
Cavalry ..	21,256	289,000	9
Artillery ..	85,740	1,407,200	7.6
Engineers ..	28,260	439,900	7.5
Air Force ..	5,139	127,400	8
Transport ..	11,161	414,600	5
Other Services ..	16,384	574,300	3.5
	1,354,000	8,410,000	16.1

9.—CASUALTIES DURING THE VARIOUS PERIODS OF THE WAR.

These are given as follows (other ranks only):—

Period.	Killed and Missing.	Prisoners.	Invalided out.	Total.
Aug. 1, 1914—Dec. 1, 1915	664,000	255,000	402,000	1,321,000
Dec. 1, 1915—Dec. 31, 1916	271,000	104,000	164,500	539,500
1917.	139,000	53,000	84,500	276,500
1918.	273,000	94,500	149,000	516,500
	1,347,000	506,500	800,000	2,653,500

To this must be added 36,000 officers killed or missing, giving a total of 1,383,000 killed, and a grand total of 2,689,500 definite losses.

10.—FRENCH LOSSES IN WOUNDED AND SICK.

The total number of cases dealt with by the medical formations from August, 1914, to January, 1919, amount to 3,594,889 wounded and 4,988,213 sick. These figures, however, give a very misleading idea of the actual losses, as many, indeed more than half, of these cases, having been dealt with by several formations, were reported two or even three times over. It may be roughly estimated that the sick and

wounded cases evacuated from the army zones amounted in various periods to the following totals:—

1914 ..	..	..	..	390,000
1915 ..	..	..	..	940,000
1916 ..	..	..	..	510,000
1917 ..	..	..	..	350,000
1918 ..	..	..	..	610,000
Total				<u>2,800,000</u>

Of these probably 50 per cent. were wounded twice, and a certain number, about 1 per cent. three or four times or more. These figures are only a rough estimate and should be accepted with caution. That they are more or less accurate is shown by the fact that up to April 1st, 1919, close on 4,200,000, men received wound pensions, or were permanently invalided out of the service.

II.—TOTAL FRENCH CASUALTIES.

As a result of the above, it is possible now to draw up a table of the total losses of the French Army during the War, under the headings usually accepted in British statistics:—

<i>Killed.</i>	<i>Wounded.</i>	<i>Missing.</i>	<i>Prisoners.</i>	<i>Total.</i>
1,121,000	2,800,000	262,500	506,500	4,690,000

The total mobilised being 8,410,000; this means that the total casualties amounted to just on 56 per cent. of the total mobilised.



THE PRELUDE TO THE BATTLE IN MARCH, 1918.

(Abridged from an article by Lieut.-Colonel Tournès in the official "Revue Militaire Française," for August, 1921.)

ON 1st March, 1918, the enemy, hitherto inactive, delivered a series of partial attacks against the whole front of the French Sixth, Fifth, and Fourth Armies, from S. of Laon to the Argonne; these were extended on the 2nd and 3rd to the Ailette and to Verdun and even to certain sectors in Lorraine and the Vosges, and to the British Flanders front. French G.Q.G., aware that the enemy had a mass of reserve divisions available for active operations, therefore issued instructions to all army groups and armies to increase their vigilance and be prepared to adopt preparatory defensive measures at short notice. The relief of the XXth Corps in the Verdun sector by the VIth, then in general reserve in the Epinal-Vesoul area, was postponed for the time being.

From 3rd March onwards, it became clear that the recent activity was not the immediate prelude of an attack. The situation was, therefore, appreciated by the French G.O.C.-in-C. and a conference of Group Commanders held on this day as follows:—

"The enemy is considered to have 179 divisions in the West, of which 70 are in reserve. 33 of these are in close reserve in the various army sectors, and 37 in general reserve in the vicinity of the Lille-Hirson-Mézières railway. They are believed to be grouped in four masses, in the areas Maubeuge-Tournai and Chimay-Fourmies in Champagne and around Arlon. It is possible that there are more than 179 hostile divisions in front of the Allies; there may be as many as 200, of which 81 would be in reserve, not to mention 2 or even 4 Austrian divisions which may possibly be present. Everything points to the imminence of an offensive on a large scale—the closing of the frontier between Switzerland and Germany for the last two months; the recall of all men on leave as from 26th February; the cessation of repatriation of civilians since the New Year; the distribution of field service cards to and the stopping of all sealed letters from the troops; the unanimous statements of prisoners; and the intensive despatch of all troops from the training camps to the front.

"The view of the French High Command is and always has been that the main German attack would be delivered against the British from the Scarpe to the Oise, with a subsidiary effort against the French between the Aisne and the Suisippe. The British agree as to the zones of attack, but expect that the main attack will be against the French, and with minor efforts only on their own front. It appears that two

new German armies, under v. Below and v. Hutier, have been brought into line in the Second German Army area from Arras to La Fère; on the French front special hostile activity has been observed in the areas of our Sixth and Fifth Armies and the left of our Fourth Army around Reims and also at Verdun; elsewhere the front is normally quiet. The British appear to be justified in expecting secondary attacks in the Lens-La Bassée area, and the French around Verdun and Belfort."

During the period between March 3rd and 21st, there was a steady increase in the number of hostile divisions in the West, as shown in the following table:—

Date.	Total Divisions identified.	Supposed Total in Reserve.
March 3rd	179	70
5th	180	70
10th	180	71
15th	181	73
20th	182	74

The British, however, considered that on 20th March there were 189 divisions in the West.

Information also pointed clearly to the transport of troops and material towards the British front throughout February and the early part of March, and to the fact that the Germans were making the fullest possible use of all railways running in that direction. By 17th March it was established that a new Army under v. Below had come into line astride the Scarpe, and a new Army Group under v. Gallwitz in the Verdun sector, between the German Crown Prince's and Duke Albrecht of Wurtemberg's Groups. On 20th March, the eve of the attack, however, the situation on the front appeared everywhere normal, except for some artillery activity, which had already continued for some days, at Verdun.

During this period of expectation the views of the British High Command as to the probable future course of events were somewhat different from those of the French. Both agreed in expecting a hostile attack between the Scarpe and the Oise; but whereas the French believed that the enemy would inevitably seek to bring about a rapid decision by means of a break through and an intensive exploitation of his first success, the British considered such an attempt not only improbable but doomed to failure if made; they rather expected a series of local assaults with the object of securing limited successes which might assist a diplomatic offensive. The battle would thus assume the well-known character of a campaign of attrition.

None the less the British were enabled, thanks to the excellence of their intelligence service, to foresee fairly accurately the direction of the forthcoming hostile offensives. The Third Army, as early as 4th March, expected an attack some time on or before the 20th or 21st

in two sectors, the one to the S. of La Vacquerie, the other between the Scarpe and the Canal du Nord, the latter being the main one. The Fifth Army expected to be assailed from its left flank to Bellenglise and perhaps on its whole front. The unusual calmness on the front of these two armies from 10th March onwards served rather to confirm than to alter these ideas.

The French G.O.C.-in-C.'s conviction as to the imminence of an offensive against the British induced him to devote considerable attention to the plans for the despatch of French reinforcements to their front, while at the same time the menace of hostile action in Champagne seemed to render advisable the transfer of some divisions thither from the Eastern Armies. The XXXIIIrd Corps was sent on 3rd March from Lorraine to the area Châlons-Epernay; and on the 10th the staffs of the XVIIth and IIInd Cavalry Corps were ordered, in conjunction with the Third Army, to prepare for a move to reinforce the British.

On 19th March the direction of the rear services in the Northern Group of Armies (on the left of the French line) was divided into two parts, of which one was to be allotted to the new Group of Armies which it was expected would come into line in the British zone N. of the Oise.

Meanwhile reliefs of troops in the line were being kept down to the minimum. The relief of the XXth Corps by the VIth in the Verdun sector was to take place as arranged, while the Vth Corps was to relieve the XIth on the Ailette, and the substitution of the XXXVIth Corps, then in Flanders, for the XXXVth on the Chemin des Dames was also sanctioned. But as a matter of fact none of these moves took place before the outbreak of the battle.

In order to complete as far as possible the preparatory organisation of the reinforcements to be transferred to the British zones, General Pétain decided to make use of the staff of General Favolle's Reserve Group of Armies, which, after its return from Italy, had been established at Verberie, near Compiègne, with a view to its taking over the command of a Group of Armies in case of a hostile advance through Switzerland. On 11th March General Favolle took up his quarters with the Sixth Army, there "to study a possible French intervention in the British zone and the eventual liaison between French and British operations." On the 15th Pétain wrote to Favolle that he had decided to give him command of a new Central Group of Armies, to consist of the two westernmost armies (First and Second) of the Eastern Group which would thus include henceforward only the Seventh and Eighth Armies. The new Central Group would thus be in occupation of the line from just E. of the Moselle to the E. edge of the Argonne, with its H.Q.S. of Bar le Duc. Measures were to be taken to ensure that, in case of necessity the staffs of the First Army and of the Central Group of Armies could be rapidly withdrawn and placed at the disposal of the G.O.C.-in-C. Here, again, the opening of the German offensive prevented the carrying out of any of these arrangements for the establishment of the new Central Group of Armies.

On 20th March then, the eve of the battle, the Allies had in face of the 182 to 200 hostile German divisions, with a possible few Austrian divisions, only 175 divisions; and while the German reserves were estimated at 74 infantry and 2 cavalry divisions, their opponents had available only 59 infantry and 5 cavalry divisions. Moreover, the German artillery numbered 11,200 field and 7,920 heavy guns, as against the Allies 8,756 and 7,168. The latter, however, still held the superiority of the air with 3,870 machines to the Germans 2,730 to 2,890.

To make head against the expected enemy attacks General Pétain had collected a mass of 41 French divisions in reserve (39 infantry and 2 cavalry). He had also available the staffs of the Reserve Group of Armies, the Third Army, and the Vth, VIth, IXth, XVIIIth, and XXXIIId Corps and the 1st and IIInd Cavalry Corps. 4 of the 6 cavalry divisions comprised in these last-named formations were unfortunately employed in keeping order in the interior of the country, as were also a number of divisional regiments and squadrons, and were thus not available as an effective reserve. All these reserves, however employed, were kept as close as possible to railway centres or localities chosen as stations for large bodies of motor transport, and all measures possible had been taken to assure their speedy despatch, in case of need, to any threatened point. This method of grouping was considered better than keeping masses of troops in readiness close behind those sectors considered to be most threatened. On 20th March these reserves were collected in two main groups; 19 divisions between the Oise and the Argonne in the area of the Northern Group of Armies, and 18 from the Argonne to the Vosges in the area of the Eastern Group. The remaining 2 were in the Belgian area S.E. of Dunkirk.

As artillery reserves at the disposal of the G.O.C.-in-C., there were in the Northern Group area 17 heavy and 6 field regiments, in that of the Eastern Group 18 heavy and 4 field. The general reserve of aircraft comprised in all 3 squadrons and 2 night-bombing groups, in addition to 5 fighting groups behind the front of the armies.

The British High Command had also made all its preparations to deal with the expected enemy offensive. It was intended to receive battle not in the forward zone of the first positions, but further back in the battle zone. Both these zones existed, but had not been everywhere completed; the battle zone was in particular unfinished in the Fifth Army area S. of the Oigny, and more especially in the sectors covered by the Oise marshes N. of La Fère. N. of the Oigny both lines were suited for prolonged defence. The reserve (green) line, though projected, was nowhere more than sketched out and in many places non-existent. In the Third Army area the work was generally more advanced than in the Fifth, and all these lines were defensible; in places, however, it had been found necessary to site the forward and battle zones so close to each other that the latter was liable to suffer from the effects of fire directed against the former.

The British had 42 of their 60 infantry divisions in line on 20th March,

and 18 in reserve—nine of these were behind the Ypres-Arras sector held by the Fourth and First Armies; 9 infantry and 3 cavalry divisions were in rear of the Third and Fifth Armies from the Scarpe to the Oise. Of these latter, 6 infantry divisions were in the Third Army area, 3 infantry and 3 cavalry divisions in that of the Fifth Army. The transport of reserves to any part of the front had been carefully prepared for. Moreover, both Allies were aware that in case they were attacked, each could confidently count on the speedy and effective support of the other, in accordance with arrangements already drawn up.



CAPTAIN COOK'S CHRONOMETER.

CORRESPONDENCE is published with reference to the above Museum Exhibit?—

8th December 1921.

DEAR SIR,

SOME time ago you very kindly allowed me to examine and make drawings of the chronometer by Larcum Kendal which was lost in the "Bounty" mutiny, and is now in the Museum of the Institution.

As some *slight return* for your kindness, I enclose herewith an account of the previous history of this timekeeper. If it is of any interest to you, I should be very pleased if you would retain it. It is based upon two absolutely authentic MSS. sources, which, as far as I know, have never been examined before in this connection—namely, the Minutes of the Board of Longitude, and the records of the trials of Harrison's and Kendal's chronometers at Greenwich.

I am afraid that the principal result of my investigation has been to disprove in toto the statement, engraved on it, that this chronometer ever went upon a voyage with Captain Cook. The assertion has often been made, but it is entirely incorrect. Not only is there no evidence for it, but there is conclusive evidence against it. The latter is of two kinds. On the one hand, we know exactly what chronometers Cook carried on all his voyages, and this is not one of them. On the other hand, there is ample evidence that this chronometer was in other hands during the period covered by Cook's voyages.

The mistake has arisen from the fact that Larcum Kendal, who died in 1795, made but three chronometers in his lifetime, which, for reference, may be termed K 1, K 2, and K 3. (K 1 is an exact copy of Harrison's No. 4, which won the £20,000 prize. It is now at Greenwich. K 2 is the one which the Institution possesses, and its history is given separately. K 3 differs materially from both K 1 and K 2 in its mechanism, and is now at Greenwich.)

Now, both K 1 and K 3 were used in Cook's voyages as follows:—On his first voyage, 1768–70, in the "Endeavour," he carried no chronometers. On his second, 1772–75, he had K 1 and one by Arnold, while his companion, Furneaux, in the "Adventure," had two other Arnolds. On his third and, as it happened, last voyage, he had K 1 by itself, and his companion, Clerke, in the "Discovery," had K 3. As will be seen from the attached account, K 2 was in Phipps' polar expedition of 1773.

which alone would make it impossible for it to have been with Cook in his second voyage, and similarly it was at Portsmouth in June 1777, while Cook had sailed for the Pacific in 1776, and his ships did not get home again until 1780.

I happen to have in my hands, at the present time, the famous No. 4 timekeeper made by Harrison, which won the £20,000 prize, it having been entrusted to me by the Astronomer Royal for repair. I occasionally bring it in to the Admiralty for rating purposes, and if you would care to see it, and compare it with K 2, I could easily bring it across. It is much more complicated than K 2 (it took nearly six months to clean and adjust) and also far more elaborately engraved.

Believe me,

Very truly yours,

RUPERT T. GOULD,

Lt.-Commdr. R.N.

The Secretary,

Royal United Service Institution.

EARLY HISTORY OF LARCUM KENDALL'S SECOND TIMEKEEPER, NOW IN THE MUSEUM OF THE ROYAL UNITED SERVICE INSTITUTION.

This timekeeper was made by Kendal at the request of the Board of Longitude. The minutes of a meeting held on Saturday, 26th May, 1770, record that he was asked to make a timekeeper for the Board in which there should be omitted such portions of Harrison's mechanism as could, in his judgment, be dispensed with.

He apparently took two years to do this. The timekeeper was delivered at a Board meeting held on 7th March, 1772. He asked £200 for it, which was paid.

It was received for trial at Greenwich on 29th April, 1772, and remained under test (it was once forgotten to be wound, on 3rd August) until 22nd May, 1773, when it was lent to Captain Phipps, afterwards Lord Mulgrave, for his expedition towards the North Pole. It was returned to the Observatory at the close of the expedition (which did not get far) on 1st October, 1773.

It remained at Greenwich until 15th February, 1774, when it was lent to Captain Vandeput, of H.M.S. "Asia," sailing for the N. American station. A letter was addressed to that officer on 2.3.1776, by the Board of Longitude, whose property, of course, it was, asking him to return it. At a Board meeting of 7.6.1777, it was stated that it had been returned by him, and was at that moment at Portsmouth. It was subsequently put into its maker's hands for cleaning (having been going some 5½ years).

It does not appear to have been again used at sea until 21.6.1781, when it was lent to Rear-Admiral Digby, who had just been appointed C.-in-C. on the N. American station. He returned it upon 6th March, 1784, and it remained with the Board until it was lent to Bligh, who

appears to have received it at some period between April and December, 1787. The last entry referring to it in the Board of Longitude's papers is the official report of its loss, communicated by Bligh, a copy of which is appended.

R. T. GOULD,
8.12.21.

Admiralty, 27th October, 1790

SIR,

I AM to inform you that the Time Keeper which was given to my charge on board His Majesty's Ship "Bounty," was left in the said Ship when Pirated from my command on the 28 of April 1789 . . .

I have the honour to be,

Sir,

Your most obedient
very humble Servant

WM. BLIGH

The Museum label now reads :—

347.

A Chronometer by Larcum Kendall, London, on the back is the following inscription :—"Presented to the United Service Institution by Rear-Admiral Sir Thomas Herbert, K.C.B., M.P. The timekeeper belonged to Captain Cook, R.N., and was taken by him to the Pacific in 1776; it was again taken to the Pacific by Captain Bligh in the "Bounty" 1787. It was taken by the Mutineers to Pitcairn's Island and was sold 1808 by Adams to a citizen of the United States, who sold it at Chili, where it was purchased by Sir Thomas Herbert."

Recent research has shown such claim to be erroneous, the mistake being apparently due to the fact that Cook used two other chronometers by the same maker.

This particular timekeeper was supplied to H.M.S. "Bounty," Lieutenant William Bligh, R.N., by the Board of Longitude in 1787 and when the crew of that vessel mutinied in 1789 was taken by the mutineers to Pitcairn's Island. In 1808 it was sold by John Adams, one of the leaders of the mutiny, to Mr. Mayo Fletcher, an American, who sold it again in Chili. In 1840 it was purchased in Chili for 50 guineas by Rear-Admiral Sir Thomas Herbert, who presented it to the Museum.

NAVAL NOTES.

GREAT BRITAIN.

SHIPBUILDING SUSPENDED.

The outstanding feature of the history of the Royal Navy during the last quarter of 1921 was the suspension of work upon the four capital ships which, as recorded in the November JOURNAL, were sanctioned by Parliament on 3rd August 1921. At the opening meeting of the Washington Conference on 12th November, Mr. Hughes, the American Secretary of State and Head of the American Delegation, made certain proposals for the scrapping of ships built or building, and for a ten-year naval holiday. On 15th November, Mr. Balfour, as Head of the British Delegation, expressed his concurrence with these proposals in principle, and promised that Great Britain would give them full, loyal, and complete support. On 18th November, it was officially stated that letters had been dispatched by the Admiralty to the firms engaged upon the construction of the four new vessels directing them not to incur any further liabilities on new construction until they received further instructions from the Admiralty. The contracts had been given out three weeks before, to the Fairfield Company, Govan; Messrs. John Brown and Co., Clydebank; Messrs. Swan, Hunter and Wigham Richardson, Newcastle (with machinery by the Parsons Turbine Company); and Messrs. Beardmore and Co., Dalmuir (with machinery by Messrs. Vickers). About 5,000 men were expected then to be employed in the shipyards, engine works, and steel foundries during November and December, and in the new year the number was expected to increase gradually to 25,000. About 500 firms were concerned in subsidiary contracts for material or equipment. Within an hour of the announcement of the British action in Washington, a resolution was proposed in Congress by Mr. Pomerene asking for a similar suspension of America's programme. No such action, however, had been taken up to the beginning of 1922. Mr. Denby, the Secretary of the U.S. Navy, stated on 14th November that, pending a decision on disarmament, the American programme would be continued. The battleship "West Virginia" was launched at Newport News on 19th November as arranged, and work on the other 28 surface ships and 40 submarines in various stages of construction was proceeded with. Japan also continued building, and the battleship "Kaga" was launched at Kobe on 17th November, and the keel of the battle-cruiser "Atago" laid there on 24th November.

In the original Washington proposals it was suggested that no replacement tonnage should be laid down for a period of ten years, and at the end of that period replacements should be limited by an agreed maximum of ship tonnage as follows:—Great Britain and United States, 500,000 tons each; Japan, 300,000 tons. Modifications subsequently made preserved the ratio of 5-5-3 for Britain, America and Japan, but provided that Japan might retain the battleship "Mutsu," launched in 1921, and scrap the "Settsu," launched in 1912. As this gave Japan two post-Jutland capital ships, the other being the "Nagato," it was approved for America to retain two also, the "Colorado" and "Washington," in addition to the "Maryland," making a total of three post-Jutland American ships. Accordingly, Great Britain is allowed to build two new ships—not having any

post-Jutland vessels already—of not more than 35,000 tons, the limit agreed upon for capital ships, and is to scrap, on the completion of these new ships, the "King George V.," "Ajax," "Centurion" and "Erin." This would leave the British Navy 20 capital ships, as compared with 22 in the original American proposal.

On 22nd December, Lord Lee stated the British case in favour of the total abolition of submarines, but this proposition was opposed by the other Powers and was abandoned. The Conference, however, agreed that the use of submarines should be restricted to legitimate operations of war, and that they should not be used for attacking commerce. The question of auxiliary ship tonnage, and other matters, remained under discussion at the end of the year. All the decisions reached by the delegations at Washington are subject to ratification by the various Governments concerned.

NAVAL COMMANDS AND APPOINTMENTS.

A change was rendered necessary on the Board of Admiralty in October by the indisposition of Vice-Admiral Sir Osmond Brock, K.C.B., K.C.M.G., K.C.V.O., who had to undergo an operation. On 22nd October, the appointment was announced of Vice-Admiral Sir Roger Keyes, K.C.B., K.C.V.O., C.M.G., D.S.O., L.L.D., D.C.L., to be Deputy chief of the Naval Staff, in place of Sir Osmond, to date 1st November. Paymaster-Commander John C. Boardman, C.M.G., was re-appointed as Secretary to the D.C.N.S. On 24th December, the appointment was announced of Captain H. W. Parker, C.B., to be Director of the Operations Division of the Naval Staff, in the place of Rear-Admiral John D. Kelly, C.B., promoted to flag rank.

The only change of importance in the civil departments at the Admiralty was in the Dockyard Expense Accounts Department, of which Mr. F. W. W. Burrell, O.B.E., was on 25th November appointed as Director, to date 28th August, 1921, on the retirement of Mr. J. Ryan, O.B.E. Mr. Burrell had been Assistant-Director of Dockyard Expense Accounts since 1918, and for many years before that had been on the staff of the Department.

At the Committee of Imperial Defence, Commander Henry R. Moore, D.S.O., was appointed Assistant-Secretary, to date 1st November. Commander Moore was formerly Staff Officer at the Royal Naval Staff College at Greenwich, where Commander W. S. Chalmers, D.S.C., succeeded him. Commander R. L. Hamer, the retiring Assistant-Secretary of the Committee of Imperial Defence, was on 20th November appointed to the command of the destroyer "Torch" in the Mediterranean Fleet.

Important changes in flag commands afloat were announced by the Admiralty on 21st December. Vice-Admiral Sir Osmond Brock has been selected to be Commander-in-Chief, H.M. Ships and Vessels, Mediterranean Station, in succession to Admiral Sir John Michael de Robeck, G.C.B., G.C.M.G., to date 15th May, 1922. Admiral de Robeck will become Commander-in-Chief of the Atlantic Fleet, in succession to Admiral Sir Charles Madden, G.C.B., G.C.V.O., K.C.M.G., L.L.D., to date 15th August, 1922. Rear-Admiral the Hon. Sir Hubert Brand, K.C.M.G., C.B., C.V.O., has been selected to be Rear-Admiral Commanding the First Light Cruiser Squadron, in succession to Rear-Admiral Sir James Fergusson, K.C.M.G., C.B., and Rear-Admiral Henry T. Buller, C.B., C.V.O., to be Rear-Admiral Commanding His Majesty's Yachts, in succession to Rear-Admiral Brand, both appointments being undated.

Several changes in the Flag List occurred during the month of December. On the 1st, the Admiralty announced the retirement, at his own request, in order to

facilitate the promotion of younger officers, of Rear-Admiral Francis Martin Leake, D.S.O., to date 19th November, whereby Captain H. J. T. Marshall was promoted to flag rank. Rear-Admiral Marshall retired at his own request, as from the 20th, promoting Captain John C. T. Glossop, C.B., to Rear-Admiral; and simultaneously Captain M. W. W. P. Consett, C.M.G., who stood next on the captains' list, was placed on the retired list with the rank of rear-admiral. The retirement, as from 21st November, of Rear-Admiral Glossop gave promotion to Captain John D. Kelly, C.B.

On 5th December, Vice-Admiral Sir Cecil F. Lambert, K.C.B., was placed on the retired list at his own request, on relinquishing his appointment as Director of Personnel at the Air Ministry and his position as Additional Member of the Air Council. Sir Cecil being seconded from the Flag List, his retirement did not create a vacancy. On 9th December, it was announced that Rear-Admiral Henry L. Mawbey, C.B., who since August, 1920, had been Director of the Royal Indian Marine and Rear-Admiral at Bombay, had been seconded. This gave a step in rank to Captain Henry T. Buller, C.B., C.V.O., to date 21st November, and he was accordingly relieved on 3rd January as Chief of Staff to the Commander-in-Chief, Coast of Scotland, by Captain P. L. H. Noble, C.V.O.

NAVAL OCCURRENCES.

RESERVE COMMODORES.—On 5th October the appointment was made of the first officer of the Royal Naval Reserve to receive the rank of Commodore, R.N.R., under the revised regulations for this Force issued in May, 1921. The officer chosen was Captain Charles A. Bartlett, C.B., C.B.E., R.D., who was granted the rank of Commodore on the Retired List, to date 5th October. Commodore Bartlett is the senior officer of the Mercantile Marine on the newly-constituted R.N.R. Advisory Committee. A week later, the promotion was announced of the first R.N.V.R. Commodore, the officer chosen being the senior captain in that Force, the Marquess of Graham, C.B., C.V.O., who has commanded the Clyde Division since 30th July, 1903.

ENGINEER PROMOTION ZONES.—The following zones for promotion to the ranks of engineer-captain and engineer-commander in December, 1921, were published by the Admiralty in October:—To Engineer-Captain, 8-11 years' seniority as Engineer-Commander inclusive on the date of selection, viz., 31st December, 1921; and to Engineer-Commander, 4 years' seniority as Engineer Lieutenant-Commander, and over on the date of selection.

OBsolete WARSHIPS.—On 10th October, in view of the state of unemployment in the country, the Admiralty announced that they were prepared to sell a number of surplus and obsolete warships which they had for disposal, at moderate prices, for breaking up by firms who would undertake to commence work upon the ships as soon as the sale had been completed. Cash payment would not be insisted upon, sale on attractive terms being offered with the object of providing increased employment. A preference was promised to those buyers who would undertake to employ on the work of shipbreaking a substantial proportion of men of the Royal Fleet Reserve.

SOUTH AFRICAN SHIPS.—On 14th October names were published in Fleet Orders of the volunteers who had been accepted for service under the Union Government in connection with the Minesweeping and Surveying Organisation

for South Africa. These ratings, four for the "Foyle," four for the "Eden," and 19 for the "Crozier," were ordered to be discharged to Devonport Barracks as soon as possible to assist in preparing the vessels for sea. The vessels left England on 24th November, being taken out by the new crew detailed for the gunboat "Thistle," supplemented by stoker ratings for the light cruiser "Dublin," both on the African Station.

CIVILIAN DOCTORS' FEES.—On 14th October, the official scale of charges allowed to be made by the civilian doctors acting as Admiralty surgeons and agents was revised. For every man or boy examined for entry into the Royal Navy or Royal Marines, the former fees of 2s. 6d., if finally rejected on medical grounds, or 5s. if accepted, were abolished, and 4s. was ordered to be paid in all cases, whether finally rejected or not. A similar fee is payable for every man examined for enrolment or re-enrolment in the Royal Naval Reserve or Royal Fleet Reserve, or examined for retirement, superannuation, and the like.

R.N.R. OFFICERS' RETIREMENTS.—By a new order of 14th October, the Admiralty amplified the qualifications for the rank of retired commander in the Royal Naval Reserve. Lieutenant-commanders for promotion must have completed two years' seniority in that rank, have attained the age of forty, and have performed good service while on the active list. A lieutenant-commander under two years' seniority, but over the age of forty, may be granted the rank of commander on retirement if he has been mentioned in despatches for meritorious service, or, while employed in the Royal Navy or in merchant ships engaged in the service of the country, has performed specially good service.

NAVAL CADETS' TRAINING.—On 21st October, modifications were announced in the routine of instruction for naval cadets on board the "Thunderer." Instead of each cruise lasting for an unbroken period of 27 weeks, counting from the time the cadets join until they are discharged, it is provided that the course of instruction in the training ship will cover two terms, each of approximately twelve weeks. The instruction is based on the principle that in all subjects practical instruction should take first place, lectures being considered of secondary importance. The marks in the passing-out examination were revised, and in the syllabus there was a reduction of the time devoted to engineering.

EXAMINATIONS FOR LIEUTENANT.—On 21st October also the Admiralty announced that the question of the training of sub-lieutenants and midshipmen had been under consideration, and it was decided that for midshipmen who take their sea examination in and after January, 1922, certain changes in the courses and examinations should be made. At sea, examinations will be held in seamanship only. The preliminary examinations in navigation, gunnery and torpedo, and voluntary examination in engineering, are abolished, but in order to give due weight in the final examinations to the training at sea an increased proportion of marks is allotted to "former service."

NEW GREENWICH COURSE.—It was also decided on 21st October to institute on shore a six-months' course for acting sub-lieutenants at Greenwich, and short courses in gunnery (twelve weeks) and torpedo and pilotage (six weeks). Instruction in *moral* is to be given both at sea and at Greenwich, where the first course begins on 13th April. Midshipmen on foreign stations, on completion of the seamanship examination, are to be discharged in sufficient time for them to be able to join the Greenwich courses, on completion of which all the officers who pass will be confirmed in the rank of sub-lieutenant. They will then be appointed to seagoing

ships to obtain their watch-keeping certificate and recommendation for promotion to lieutenant.

NEW SOMALILAND CLASP.—African General Service Medals with the new clasps for "Somaliland, 1920," were ready for issue in October. The clasp is granted to those officers and men who served in H.M. ships "Odin," "Clio," and "Ark Royal," and in the Naval Medical Contingent, which accompanied the expedition in Somaliland from January 21st to 12th February, 1920.

WARDROOM ATTENDANTS.—Difficulties having been experienced in obtaining an adequate supply of volunteers from the Royal Marines to act as wardroom officers' servants, revised arrangements were introduced in October. The title was changed to "wardroom attendant," and the authorised pay allowed under Article 1179 of the King's Regulations was ordered to be paid to the men by the officer commanding the R.M. Detachment, the amount being charged in the officers' mess bills. Fresh articles of clothing were to be issued to the attendants, and concessions were granted them in regard to being excused morning divisions and routine evolutions, such as hoisting boats.

"CRESCENT" BROKEN UP.—In October, the cruiser "Crescent" was towed from Rosyth to Germany to be broken up. This was the last man-of-war commanded by King George before His Majesty had to relinquish an active naval career in view of the higher responsibilities awaiting him. As a Captain, R.N., in June, 1898, the King commissioned the "Crescent" for a special cruise and visited several coast towns in her during the next two months. The vessel afterwards saw much service as flagship on foreign stations, and during the late war she was for a time the flagship of Rear-Admiral De Chair, Commanding the Blockade Squadron between the Shetlands and Norway.

AIR OBSERVERS.—An Admiralty order of 28th October constituted the air observers among naval officers into a specialist branch, similar to those for gunnery, torpedo, navigation and signals. Eight officers were to be selected each year. In time, only junior lieutenants of two years and upwards will be chosen, as in other specialist branches, but a few commanders and lieutenant-commanders were required immediately for training. Courses, each of seven months' duration, will begin in May and November of each year, and will include two months' preliminary training at the naval schools in gunnery and signals, and five months at the seaplane training school at Lee-on-Solent. Volunteers were also called for in October from the Navy wireless branch for duty as operators and assistants to naval gunnery observer officers in aeroplanes working with the Fleet.

KING GEORGE SCHOLARSHIPS.—The King George prize scholarships, granted from the fund subscribed for the purpose of commemorating his Majesty's Coronation by subjects in all parts of the Empire bearing the Christian name "George," will continue to be granted annually to officers of the Royal Marines who, as a result of the competitive examination, are selected by the Admiralty for admission to the Military Staff College at Camberley. By an order dated 28th October, however, if in any year there is no officer selected for Camberley, the prize for the year may be awarded to an officer selected to undergo the War Staff course at the Royal Naval College at Greenwich. The scholarships awarded to officers at Greenwich will be tenable for one year only unless renewed, such renewal being dependent upon the number of officers studying at Camberley.

R.M. "RANKER" COMMISSIONS.—The scheme introduced in February 1913, whereby two commissions in the Royal Marines are awarded each year to candidates

selected from warrant officers, non-commissioned officers, and gunners and privates (passed for promotion), was revised under post-war conditions by an order dated 28th October. Candidates must have completed not less than three years' service from the age of 18; must be not over 25 years of age; have a first-class certificate of education and clear company conduct sheet; be recommended by the Colonel-Commandant of their Division, or, if embarked, by the commanding officer; and must be unmarried and medically fit for general service.

RESERVE AIDES-DE-CAMP.—It was officially announced at the end of October that the King had been pleased to approve of the regulations governing the qualifications of officers of the Royal Naval Volunteer Reserve for appointment as Aides-de-Camp being amended to provide that an officer, in order to be eligible must be of the rank of captain. At the time R.N.V.R. Aides-de-Camp were first appointed in July, 1916, the highest rank in the force was that of commander.

PRINCE'S VOYAGE TO INDIA.—On 26th October, the Prince of Wales left Portsmouth in the "Renown," Captain the Hon. Herbert Meade, D.S.O., on the third of his Empire missions. He was met on his arrival by train by the local naval and military chiefs, with the usual ceremonies. The Duke of York and Prince Henry took leave of him on board the "Renown," which left at 4 p.m.

PROGRAMME AND ESCORTS.—On the voyage out, the "Renown" called at Gibraltar, Malta, Port Said, Suez and Aden, and arrived at Bombay on 17th November, where the Prince landed. From Portsmouth to Gibraltar, the "Dunedin," Captain H. S. Monroe, D.S.O., formed the escort; from Gibraltar to Aden, the "Calypso," Captain H. A. Buchanan-Wollaston, C.M.G.; and from Aden to Bombay the "Comus," Captain Archibald Cochrane, C.M.G. In the further cruise of the "Renown" with the Prince after the termination of his Indian tour, to China and Japan, the vessel will be escorted by a light cruiser furnished by the stations through which she passes.

EX-KING KARL.—The light cruiser "Cardiff," Captain L. F. Maitland-Kirwan, flagship of Sir Reginald Tyrwhitt, proceeded to Galatz at the end of October and embarked the ex-King Karl and his wife Zita, who were conveyed to Madeira. The "Cardiff" arrived at Constantinople on 8th November, and Gibraltar on 16th November, Funchal, Madeira, being reached on the 19th.

BRIGHTLINGSEA BASE CLOSED.—On 31st October, the naval base at Brightlingsea, which was one of the chief headquarters of the Auxiliary Patrols working in the lower portion of the North Sea during the war, was finally closed. Commander F. E. M. Garforth, C.B.E., continued on duty for a few days to supervise the turnover of the work to the contractors, an arrangement having been made whereby the care and maintenance of Admiralty vessels lying at the base was taken over by the Rose Steel Foundry and Engineering Company, Ltd., of Inverness. The trawler "City of Perth," parent ship at the base, was paid off.

"DURBAN" COMMISSIONED.—At Devonport on 1st November the light cruiser "Durban" was commissioned for the first time by Captain H. O. Reinold, late of the "Ceres," for service in China, in place of the "Colombo." The "Durban" left England on 16th November, and met the "Colombo" at Colombo, Ceylon, on 17th December, where the change-over was effected. Going on to the Far East, the "Durban" arrived at Hong Kong on 5th January. The "Colombo" joined the East Indies Squadron, in place of the "Caroline," which left Colombo on 21st December for home to pay off.

SPECIAL ENTRY CADETS.—Changes in the training of special entry cadets were made on 4th November, the period of training being reduced to twelve months, or three terms. Two of the terms will in future be spent on board the cruiser "Antrim," signal and wireless experimental ship at Portsmouth; and the third term in the battleship "Thunderer," seagoing training ship for cadets. The routine showed that, as compared with one hour's instruction during the afternoons in the "Thunderer," two hours' instruction are to be given in the "Antrim," the additional time being considered necessary and not excessive.

NAVY WELFARE COMMITTEE.—The Admiralty on 4th November published the revised procedure to be followed in 1922 regarding the naval welfare machinery, the Board being of opinion, as a result of inquiries made through the Commanders-in-Chief, that the new machinery would be appreciated by the Service. The 1922 central port meetings will be held at Chatham, and afterwards in the order—Portsmouth, Devonport, and Chatham. The system by which representatives of the men met in London is abolished, and all meetings of representatives at the ports will be convened under the authority of the Commanders-in-Chief and attended by officers detailed by them. These officers will not take part in discussion with the men, but may give advice if asked.

MEN-OF-WAR BADGES.—The procedure to be followed in regard to the provision of ships' and boats' badges was announced by the Admiralty on 4th November, and resembles that recorded in the JOURNAL for February, 1921 (page 159). On 20th December, by permission of the Admiralty, an exhibition of the new badges was opened at Messrs. Gieves' Gallery, 22, Old Bond Street, in aid of the Royal Naval Fund, founded in connection with the Naval Exhibition of 1891 for the relief of widows, orphans or other dependent relatives of seamen who die while on service.

THE OFFICIAL SCHEME.—With the assistance of Major Charles ffoulkes, Adviser on Heraldry, the Admiralty have adopted a co-ordinated plan whereby each man-of-war has a permanent official badge. Until the official badges were issued, the tradition lay solely with the names of the ships, such as "Victory," "Revenge," and the like, but, owing to the lack of official records, in many instances, even the officers of the ships were ignorant of the great traditions embodied in the vessels' names. The official badges fall roughly into four categories. First come those of ships named after individual persons or towns, which consist of the crest or arms of the latter. Secondly, where a warship name has a long and distinguished history, and the name itself cannot be symbolically illustrated, such as "Surprise" and "Speedy," the crest or part of the arms of the most famous commander of a ship of the name has been adopted. In the third category are those vessels of long history of which the commander's arms are unknown or not available. The "Strenuous," for instance, has the badge of a salamander, commemorating the fact that in 1806 the original "Strenuous" captured the French "Salamandre." Fourthly, there are the designs which are purely symbolical or illustrative, such as "Lion," "Shark," or "Pegasus." Special consideration has been given to ships' mottoes in determining the designs for new badges.

DOCKYARD EXAMINERS.—Early in November, an Admiralty Administrative Whitley Council Committee was appointed to examine and report on the question whether recruitment for all confirmed positions as examiners of dockyard work should be limited to officers belonging to the foremen grades; or, if not, what should be the future system of recruitment for these posts. Mr. W. A. T. Shorto, C.B.E.,

Assistant-Secretary of the Admiralty, and formerly Secretary to the Controller-General of Merchant Shipbuilding (Lord Pirrie), was appointed Chairman of the Committee.

ORDNANCE-LIEUTENANT (T).—In November, the new grade of ordnance-lieutenant (T), with corresponding commissioned and warrant ranks, was instituted by an Order in Council published in the *London Gazette*. The Admiralty are of opinion that the increased complexity of the electrical and torpedo apparatus employed in His Majesty's vessels warrants the division of the electrical artificer branch of the Navy into two categories. Hence, instead of an electrical artificer employed on torpedo duties rising, as formerly, to warrant electrician, commissioned electrician, and electrical lieutenant respectively, he will in future be eligible for the new grades of warrant ordnance officer (T), commissioned ordnance officer (T), and ordnance-lieutenant (T). The electrical artificers and chief electrical artificers will be separated into two classes, one class retaining these titles and the other being known as torpedo artificers and chief torpedo artificers. It is provided that the new class shall receive the same pay and conditions of service as the branch which they supersede. The new order adds one more to the list of branches in the Navy, making 15 altogether, in which men can rise from the lower deck to commissioned rank.

ENGINEER-CAPTAINS, RETIRED.—On 18th November, the Admiralty announced that regulations for the grant of the rank of engineer captain on the retired list have been approved. Engineer commanders, retired from that rank, are to be granted the rank of engineer captain on the retired list at the discretion of the Admiralty, provided that they have served the time to qualify them for promotion on the active list, and that they have attained the age of forty-five. This regulation is to apply to all officers who were on the active list of engineer commanders on 30th June, 1920, and who have been retired as engineer commanders since that date.

SLOOPS FOR NEW ZEALAND.—Following the despatch of the sloop "Veronica," Commander F. H. L. Lewin, to the New Zealand Station, her sister-ship, the "Laburnum," Commander G. P. Sherston, left Devonport on 24th November, and was due at Auckland on 15th March. These sloops are for duty among the South Sea Islands.

RECRUITING SUSPENDED.—On 21st November it was announced that recruiting for seamen in the Royal Navy had been suspended. The class affected was the short-service men, who sign on for a first period of five years between the ages of 18 and 25, as compared with twelve years in the first period of the continuous service men. The entry of boys and youths, and most of the technical ratings, remained open.

INDIAN MARINE FLAGS.—In a list of amendments to the Admiralty Flag Book issued on 22nd November it was notified that ships of the Royal Indian Marine in commission fly the red pendant shown on page 8 of the Flag Book. The Director of the Royal Indian Marine, however, when afloat in an R.I.M. ship, flies a broad red pendant charged with a cross in gold, and having in the first canton a golden lion rampant.

OFFICERS' GREAT COATS.—Changes in the uniform regulations ordered on 25th November provided that for all officers except subordinate officers the great coat is to be a compulsory article of uniform, and the watch coat is to be optional.

Officers who were without the great coat were given a reasonable time to provide it. The Admiralty directed that at funerals in bad weather the dress was to be modified to cocked hat, great coat, and sword.

ADMIRALTY CIVIL OFFICERS.—At the end of November, a committee under Rear-Admiral F. L. Field, C.B., Third Sea Lord and Controller, was appointed to consider the remuneration of the higher grades of civil engineers and electrical engineers and the senior officers of the Royal Corps of Naval Constructors (*i.e.*, those above the rank of constructor). The Committee was to report whether any, and, if so, what, improvements were considered necessary, having regard to these officers' responsibilities and duties, and the necessity of inducing a flow of candidates from outside sources.

CHANGES IN ALLOWANCES.—An Order in Council was published in the *Gazette* at the end of November abolishing the allowance of 1s. 6d. a day to mates and sub-lieutenants, R.N., when appointed for navigating duties. Provision, however, was made that mates and sub-lieutenants if appointed in lieu of a navigating lieutenant in a ship in which a qualified navigating officer was allowed by complement but not borne, might receive an allowance of 1s. a day. An allowance was also authorised to officers appointed as secretary to a principal naval transport officer of 2s. 6d. a day.

MATES, R.N.—On 25th November the Admiralty ordered that the duration of the course in navigation at the Royal Naval College, Greenwich, for lieutenants (ex-mates) was to be reduced from four to three months. The Board also announced the conditions under which mates, acting lieutenants (ex-mates), mates (E), and acting engineer-lieutenants (ex-mates (E)), would be eligible for promotion to the rank of lieutenant on the retired list.

DENTAL OFFICERS, R.N.—From 1st December the Admiralty decided that dental officers in the Royal Navy were to be paid on the dental officers' scale. This is in most cases from 2s. to 3s. a day less than that of the regular medical scale. Dental officers were to be paid at this rate irrespective of the fact that they may possess medical qualifications. If, however, possessing the latter, they are appointed for medical duties in addition to their dental duties, they may be paid on the medical officers' scale.

DVINA FORCE MEMORIAL.—On 3rd December, at the Imperial War Museum, Crystal Palace, Major-General Sir W. E. Ironside unveiled a memorial to the officers and other ranks and ratings of the naval, military and air forces who fell during the operations of the Dvina Relief Force, North Russia. This force included the Sadleir-Jackson Brigade of the 45th and 46th Battalions of the Royal Fusiliers (London Regiment) and attached units, a naval river flotilla, and a seaplane wing.

GIBRALTAR FLOTILLA'S CRUISE.—On 2nd December the Gibraltar Local Defence Flotilla, composed of the "Rowena," Commander R. V. Holt, D.S.O., and the "Restless," "Rigorous," and "Romola," left Gibraltar for a short cruise to Algiers and Oran. At both places the vessels were warmly welcomed by residents and visitors, the more so as on the occasion of its last cruise, in September, the Flotilla did not touch at Algerian ports but proceeded instead to Cadiz, Lisbon, and Oporto.

SENIOR OFFICERS' COURSES.—It is officially announced that the dates for senior officers' courses are as follows:—Technical courses will be held at Portsmouth from 24th April to 23rd June, 7th August to 6th October, and 16th October to

15th December, 1922; and from 1st January to 2nd March, 1923. War courses will be held at Greenwich from 9th October, 1922, to 16th February, 1923, and from 5th March to 29th June, 1923.

R.N.R. OFFICERS' TRAINING.—On 9th December a change was announced in the regulations governing the obligatory training of captains and commanders in the Royal Naval Reserve. Hitherto these officers have been liable for 28 days' naval training every three years, to be taken either in one period or in two periods of 14 days each. It has now been decided that courses in gunnery (21 days) and torpedo (21 days) must be taken within five years of promotion, and a signal, submarine, and aircraft course (14 days) within six years of promotion. These courses will be the same as those laid down for the R.N. Senior Officers' Technical Courses. Requalifying courses in these subjects must be carried out at intervals of not less than four, or more than six, years from the date of qualification or requalification in that particular subject.

PROVISION ALLOWANCE REDUCED.—On 9th December also the Admiralty announced that a reduction in the provision allowance for naval officers had been decided upon, to take effect from 1st February, 1922. The daily rate of allowance was reduced from 5s. to 4s., and the annual rate from £80 to £65.

H.M.S. "RALEIGH" AT ESQUIMALT.—On 13th December the cruiser "Raleigh," Captain Arthur Bromley, C.M.G., flagship of Vice-Admiral Sir William Pakenham, K.C.B., K.C.M.G., K.C.V.O., arrived at Esquimalt, having come through the Panama Canal from Bermuda and Jamaica. This passage was noteworthy as being the first visit of a British man-of-war of any size to the Pacific coast of Canada for many years, certainly since the maintenance of the dockyard at Esquimalt was undertaken by the Canadian Government in 1909.

COASTGUARD WELFARE.—Decisions by the Admiralty on requests put forward through the Coastguard Welfare Committee were officially announced on 16th December in Fleet Orders. Very few of the 86 requests made were granted in full or in part, but it was promised that, as funds became available, improvements in the accommodation and conveniences at existing stations would be made so as to bring all the quarters, so far as their condition and age permitted, up to the standard laid down for new stations.

COASTGUARD IN IRELAND.—One request made by the men was that they should not serve more than three years in Ireland. This, the Admiralty state, is impracticable, owing to the heavy cost involved in removals and the great difficulty in finding reliefs for men removed from Ireland if a shorter period in that country is to be in force. With the present minimum period (five years), it is hoped to be able to provide all reliefs from new entries; but if men were removed from Ireland after a shorter period, it would be necessary to detail men from England as reliefs.

MEN-OF-WAR LIBRARIES.—After considering the question of officers' libraries on board ship, the Admiralty in December decided to modify the composition of these libraries so as to extend their scope and to facilitate the introduction of new works as others become out of date. The station library idea is now to be applied to all squadrons. Under the present system, officers' libraries are divided into three classes according to ships' complements, but within the limits of these classes the books supplied are the same for all ships. Under the new scheme, the books, which will be supplied to all ships alike, will form only a portion of the library, being restricted to standard works required for purposes of reference. Apart

from this "reference library," which will be common to all ships, there will be "circulating unit libraries" of a level value, but composed of different books, and varying in number from four units down to one unit according to the class of library allowed to the particular ship. These circulating units will be available for interchange between the different ships of a squadron as may be desired.

"VICTORY" DOCKED.—On 16th December the "Victory" was removed from her old position in Portsmouth Harbour and towed into the tidal basin, from which she was subsequently taken into the little dry dock outside the Admiral-Superintendent's office. Being near the main dockyard gates, this position makes the ship still convenient to visitors. The "Victory" will continue to fly the flag of the Commander-in-Chief, but the battleship "Conqueror," flagship of the Vice-Admiral Commanding Reserve Fleet, has taken her place as saluting ship. The "Victory" saluted at daybreak, and announced official night with her guns, for the last time on 20th December.

PORTSMOUTH NAVAL MUSEUM.—By permission of the Admiral-Superintendent, Rear-Admiral Sir Edwyn S. Alexander-Sinclair, K.C.B., M.V.O., the Portsmouth Dockyard and Naval Museum was in December improved by the loan of a number of historical prints by Messrs. T. H. Parker, of Berkeley Street, London. The collection includes portraits of celebrated admirals, battle prints, and a series of lithographs of the fast-disappearing wooden men-of-war, with several views of naval interest and pictures of social life on board ship.

"VENGEANCE" ADRIFF.—The ex-battleship "Vengeance," launched in 1899, while on her way from Devonport to the breakers' yard, broke adrift during a gale in the Channel on the night of 29th December, and was not recovered and towed into Cherbourg until January 1st. Her crew of 14 pensioners were then quite exhausted from their two-days' exertion and exposure, and were without food. The "Vengeance," after serving as flagship of Admiral Bethell in the Seventh Squadron, took part in the first attack on the Gallipoli forts in 1915, and was later flagship of Admiral Charlton at the Cape. Her last service was as a powder magazine at Devonport.

FOREIGN NAVIES.

BRAZIL.

REORGANISATION PLANS.—At the end of October it was announced that the Brazilian Ministry of Marine had declared in favour of engaging a foreign naval mission to reorganise the Brazilian Fleet. In a cablegram dated 9th November, *The Times* correspondent at Rio de Janeiro stated that the Brazilian battleship "Minas Geraes" had returned to port after an absence of sixteen months in the United States, where she underwent important repairs and modifications in the Government naval yard at Brooklyn. These included the adaptation of her boilers for burning oil, the installation of anti-aircraft guns, a new system of fire-control, inter-communicating wireless telephone sets, and various accessories employed in American naval practice. During their stay in the United States the officers and crew received various courses of instruction, and took part in naval manoeuvres. According to the Brazilian Press, the reconstruction cost roughly two millions sterling.

FRANCE.

NAVY ESTIMATES.—On 9th December the French Chamber passed without debate the Bill fixing the amount to be included in the 1922 to 1925 Estimates for

the construction of light naval craft, and providing for the abandonment of the construction of battleships of the "Normandie" class. The 1922-25 programme involves the construction of three light cruisers, six destroyers, 12 torpedo-boats, and 12 submarines, and an expenditure in 1922 of 160,000,000 frs. [£6,400,000 at par]; in 1923 of 334,000,000 frs. [£13,360,000 at par]; in 1924 of 190,000,000 frs. [£7,600,000 at par]; and in 1925 of 71,000,000 frs. [£2,840,000 at par]. The grants voted during the war for the four "Normandie" vessels will be applied to the present purpose.

NEW HYDROPLANES.—In the first week of December, Messrs. Thornycroft despatched from the Thames a new motor torpedo-boat, of the skimming or hydroplane type, for the French Navy. On trial the vessel attained a speed of 41·6 knots, or 47·9 miles an hour. The new vessel is practically of the coastal motor-boat class which during the war achieved such good results at Kronstadt, Zeebrugge, and elsewhere. Their design was developed in 1915 by Messrs. Thornycroft, largely as a result of experiments Sir John Thornycroft had begun nearly 40 years previously. The construction of the first dozen of them was decided on by the Admiralty early in 1916, and, in all, well over 100 were built by Messrs. Thornycroft and their licensees. The present vessel, which is the second ordered by the French Government—the other and rather smaller one having already been delivered—is 55 feet long, with a beam of 11 feet and a draught of 3 feet 3 inches. At first sight she does not look very impressive, but, thanks to her special construction, she can face heavy weather, and she carries the formidable armament of two 18-inch torpedoes, two depth charges, and four machine guns. For the sake of lightness and flexibility, she is built entirely of wood. There are two skins, both of Honduras mahogany, with a layer of oiled canvas interposed between them. The deck extends over the greater part of the length of the vessel, and constitutes an integral part of the structure. A third skin, worked in from the fore portion of the boat, and extending to amidships, forms a step about 3½ inches in depth, upon which the vessel rises as she gathers speed, and thus she obtains a skimming action over the surface of the water.

GREECE.

BRITISH MISSION.—A vacancy occurring for a torpedo gunner for service with the Greek Naval Mission, the Admiralty announced the fact in orders, and on 11th November it was officially stated that a volunteer for the post had been selected. According to the Navy List for December, the officers serving with the Mission under Rear-Admiral Aubrey C. H. Smith, C.B., M.V.O., include one captain, one lieutenant-commander (E), three lieutenants, one engineer-commander, one surgeon-commander, one paymaster-commander, one commissioned gunner, three gunners, and one warrant engineer, a total of 13 besides the Admiral.

SALUTING STATIONS.—It was announced by the British Admiralty in November that salutes of foreign men-of-war will be returned at the following Greek ports:—Piraeus, Patras, Nauplia, Corfu, Cavalla, Poros, Salonika, Salamis (Royal Arsenal), and Suda (Crete). Salutes to the Moorish flag will also be returned at Tangier.

GREEK ADMIRAL SHOT.—On 21st December, three ex-Service men who had been wounded in the war broke into the office of the Relief Fund at Athens and fired at Admiral Condouriotis, Chairman of the Committee, who was wounded in the stomach. The bullet was extracted at a neighbouring hospital, where the surgeons stated that the Admiral had had a marvellous escape.

ITALY

COLLISION.—On 18th October it was reported that the Italian battleship "Roma," on passage to Constantinople, collided with and sunk the steamer "Zwulon," of 2,800 tons, belonging to the European Steamship Company, of London. No loss of life was reported.

DESTROYER SUNK.—On 27th November, the loss was announced in a storm near Adalia, on the coast of Asia Minor, of the small destroyer "Centauro." Launched and completed in 1907, the "Centauro" was of 214 tons, with 3,000 horse-power, giving a speed of 25 knots, and was armed with two 14-pdr. anti-aircraft guns and three 18-inch torpedo tubes.

JAPAN.

SQUADRON AT SHEERNESS.—The Training Squadron under Vice-Admiral H. Saito, consisting of the cruisers "Yakumo" and "Idzumo," arrived at Sheerness on 29th November and remained until 10th December. The vessels had on board midshipmen, engineer-midshipmen and paymaster-midshipmen, who were granted leave to visit London. At the Cenotaph in Whitehall, wreaths were laid by the Admiral and by two Japanese Princes under training. Commander R. S. Goff, of the "Marlborough," and Instructor-Commander O. T. Tuck, head of the Historical Section of the Naval Staff, were attached to the Squadron during its visit for duty as interpreters.

MESSAGE OF THANKS.—The following message from Viscount Takahashi, Acting Minister of the Japanese Navy, to the Secretary of the Admiralty, was circulated on the ships in the Nore Command:—"On behalf of the Japanese Navy I wish to tender my sincerest thanks for the facilities granted to our Training Squadron on the occasion of its recent visit to England and to express my gratitude for the warmth of welcome accorded it. Please convey the sentiment of my warmest thanks to the Commander-in-Chief at the Nore and to all officers concerned. I would avail myself of this opportunity to express my earnest desire that the long-standing cordial relations between our two Navies may always continue." At the end of December, the Squadron visited Gibraltar, where Admiral Saito, at a dinner which he gave to the Governor and officials, said the Japanese were always happy in British ports, where they felt as if they were in their own country.

"ATAGO" BEGUN.—On 24th November, the keel was laid at the Kawasaki Dockyard, Kobe, of the battle-cruiser "Atago," of 41,000 tons. Two similar ships the "Akagi," at Kure, and the "Amagi," at Yokosuka, are building, and a fourth, the "Takao," which is to be built at Nagasaki, will complete the "eight-eight" scheme.

"KAGA" LAUNCHED.—On 17th November, the battleship "Kaga" was launched at the Kawasaki Yard at Kobe. She is understood to be of 40,600 tons, and to be armed with eight 16-inch guns

NETHERLANDS.

SUBMARINE PROGRAMME.—At the beginning of November, the Dutch Government laid before Parliament a programme embodying the scheme of defence for the Netherlands and Dutch East Indies, to extend for a period of twelve years. During this time, there are to be built for the Indies four cruisers, 24 destroyers, 32 submarines, four submarine minelayers, and 4,500 mines. For the Air Force in the Indies there will be provided 72 reconnaissance planes, 18 bombers, and

18 battle planes. The programme for the main fleet consists of 18 submarines, 4 submarine minelayers, 5 armoured gunboats, 15 minelayers of various types and 3,500 mines, with some gunboats for the Zuyder Zee and auxiliary craft. For the Air Force at home there are to be provided 35 reconnaissance and 15 battle planes. The total expenditure is estimated at about £30,000,000.

UNITED STATES.

THE UNKNOWN WARRIOR.—On 14th October, the American cruiser "Olympia," flagship of Rear-Admiral Lloyd H. Chandler, arrived at Devonport *en route* for France, to convey the body of America's Unknown Warrior to the United States for burial at Washington. Admiral Chandler landed with his staff and visited Admiral Sir Montague Browning, who afterwards paid a return visit and entertained the American officers at dinner in the evening. After visiting Havre to embark the body of the American soldier, the "Olympia" returned to the United States, the burial taking place in the national cemetery at Arlington on 11th November.

"MARYLAND'S" TRIALS.—It is announced in the *Army and Navy Journal*, of New York, that in the standardisation trials of the new American battleship "Maryland," which began on the Rockland, Me., course on 14th November, a speed was attained on the measured mile of 22.49 knots, a record for electrically-driven ships of this class. The contract called for a speed of 21 knots. The trials included three runs at 17, 19, and 21 knots, and five high-speed runs, on which the "Maryland" averaged 21.76 knots, or more than three-quarters of a knot in excess of the required speed. The maximum horse-power developed was 36,673. The "Maryland," which is the first battleship with 16-inch guns to be completed for the American Navy, is the one capital ship of the 16 in the 1916 programme which it is proposed not to scrap in the plan outlined at the Washington Conference.

NEW FLAGSHIP.—In November, the steamship "Great Northern," which was refitting at New York Navy Yard for duty as administrative flagship of the Atlantic Fleet, was re-named the "Columbia." The last man-of-war of this name in the American Navy was a cruiser of 7,375 tons, launched at Philadelphia in 1892, which served in the Spanish-American War. The new "Columbia" has a speed of 25 knots and burns oil fuel only. She served in the late war as an Army transport.

"WEST VIRGINIA" LAUNCHED.—On 19th November, the battleship "West Virginia" was launched at the Newport News Shipbuilding Company by Miss Alice Mann, daughter of the Hon. Isaac T. Mann, of Bramwell, Virginia. The vessel's keel was laid on 12th April, 1920, and she was the fourth ship of her class to take the water, the others being the "Maryland," "Colorado," and "Washington."

"CONCORD" LAUNCHED.—On 15th December, the light cruiser "Concord" was launched at the yard of Messrs. Cramp and Sons at Philadelphia. Miss Helen Buttrick, of Concord, Massachusetts, performed the naming ceremony. The keel was laid on 29th March, 1920.

The Military Notes are held over for this issue owing to the serious illness of the compiler.

ROYAL AIR FORCE NOTES.

GERMANY.

At the time of the Armistice it was estimated that the Germans possessed 18,000 aeroplanes, 500 seaplanes, 17 airships, from 90 to 100 balloons and 35,000 engines; of these some 2,600 aeroplanes were handed over at the time of the Armistice, 574 aeroplanes and seaplanes have been surrendered to the Allies, 14,225 have been destroyed by the Commission of Control, 1,000 are estimated to have been exported to neutral countries, and some 250 were abandoned during the retreat on the Western Front in 1918 and in the Baltic States in 1919 at the time of the von der Goltz adventure. In regard to engines, 2,600 were handed over at the Armistice, some 2,500 are estimated to have been exported, some 250 were lost during the retreats in France and the Baltic States, 4,096 have been surrendered to the Allies and 25,280 have been destroyed by the Commission of Control. In the case of airships, eight have been surrendered and nine have been destroyed. As regards balloons, 24 have been handed over and 66 have been destroyed.

Therefore the disarmament position is as under:—

Armistice.	January, 1922 (Accounted for).					Balance.
Aeroplanes	18,000	Nil
Seaplanes	500	Nil
Airships	17	17
Balloons	90-100	90
Engines	35,000	34,726

Furthermore the Commission of Control have taken delivery of or destroyed 490 sheds and hangars, 14,568 machine-guns, 247,931 bombs and a quantity of minor accessories.

A few aeroplanes and engines may still remain hidden in Germany, but the former, being of old design, would be of no military value whatever, and the latter—whose number is not believed to exceed a few hundred—would be of no importance unless they had been subject to careful maintenance, and in this event it is reasonable to suppose that they would not have escaped the vigilance of the Commission of Control.

Fears have been expressed that the material which has been exported abroad would be returned to Germany after the departure of the Commission of Control. In regard to the 1,000 aeroplanes and the 2,500 engines which are believed to have been sent to neutral countries, it is known that most of the aeroplanes have been totally wrecked in accidents which have taken place owing to faulty design of the machines, and even were a few to be returned to Germany they would be of old design and in a bad state of repair. A few engines might be sent back to Germany, but, unless they had been well looked after, they would not form a large asset for aviation in Germany.

A small section of the Commission of Control still remains in Germany.

The embargo on aircraft construction according to the peace treaty expired in June, 1920. As the Allies had drafted this clause in the belief that all aircraft would have been surrendered or destroyed by that date, and since considerable

delay occurred in the completion of the work of the Commission of Control owing to procrastination on the part of the Germans, the German Government was informed, as a result of the decision taken by the Supreme Council at Boulogne, that construction and importation of aircraft was not permitted until a period of three months had elapsed after the surrender of all aircraft had been completed. This ruling the German Government refused to accept until May of last year. In the interim German manufacturers had constructed some 200 aeroplanes and seaplanes. The German Government agreed to hand over to the commission all machines which had been constructed in violation of the ruling, and their surrender is now virtually complete. In consequence of the allied prohibition and the subsequent German legislation which gave effect to it, construction in German factories has now ceased for several months.

The Germans have been carrying on air-traffic with 100 old ex-military machines which were sold by the Allies in 1920, but this traffic has been suspended for the winter months owing to the Government subsidy having temporarily lapsed. A Government subsidy of 26 million marks has been granted for this purpose, and the Government are understood to have decided to grant a sum of 11 million marks as an indemnity to the aircraft constructors.

Most of the important work being carried out in Germany is in the nature of research, but it must be remembered that the study of aerodynamics is not subject to limitation, and that its beneficial results are not confined to one nation.

SOME FOREIGN MILITARY PUBLICATIONS.

FRANCE

LES ARCHIVES DE LA GRANDE GUERRE.

No. 25 (August, 1921).

LUXEMBOURG AND ZOLLVEREIN. ATTEMPTS TO PRUSSIANIZE THE GRAND DUCHÉ (1839-1919).

BRITISH AND AMERICAN PROPAGANDA IN ENEMY COUNTRIES DURING WAR.

THE PRESS AS A GERMAN MILITARY WEAPON. (The "Gazette des Ardennes.")

RESPONSIBILITY FOR THE WAR. (Extracts from the Memoirs of Von Schoen, German Ambassador in France, 1910-1914.)

No. 26 (September, 1921).

THE EVIDENCE OF GENERAL LANREZAC ON THE RÔLE OF THE FIFTH ARMY (AUGUST, 1914). (An important article by M. Isaac, Professor of History at the Lycée St. Louis, unfavourable to Maréchal Joffre and his school.)

THE ATTITUDE AND IDEAS OF ERZBERGER.

THE GERMAN TERROR IN 1914. (A Proclamation of Hindenburg.)

REVUE MILITAIRE FRANÇAISE.

(This is not a new magazine but a fusion of the pre-war "Journal des Sciences Militaires," "Revue Militaire des Armées Étrangères," and "Revue d'Histoire." It is to appear monthly. Price 4.50 francs per number, or 60 francs per annum abroad.)

No. 1 (July, 1921).

THE GERMAN SUPREME COMMAND IN 1914. (The German Story.) By General Dupont. (Continued.)
THE CONDUCT OF THE WAR TO THE BATTLE OF THE MARNE. (Continued.)
THE NEAR EASTERN QUESTION IN 1921. (The Islam policies of the Allied Powers.)
THE MILITARY, DIPLOMATIC AND ECONOMIC DIRECTION OF THE WAR UP TO THE BATTLE OF VERDUN.
THE INDUSTRIAL PREPARATION FOR WAR IN FRANCE AND GERMANY.
THE MILITARY MONTH.
FOREIGN MILITARY NEWS.
BIBLIOGRAPHIC BULLETIN.

No. 2 (August, 1921).

WAITING FOR THE BATTLE IN MARCH, 1918.
WIRELESS TELEPHONY.
THE TRUE HISTORY OF THE TAXIS OF THE MARNE. (This has appeared since in pamphlet form.)

No. 3 (September, 1921).

THE MANŒUVRE OF MONTDIDIER (1918).
FRENCH MILITARY REORGANIZATION.
FRENCH MILITARY PAINTING.

No. 4 (October, 1921).

THE PROBLEM OF THE REDUCTION OF ARMAMENTS BEFORE THE LEAGUE OF NATIONS.
THE METHODS OF ARTILLERY SUPPORT OF THE ATTACK DURING THE COURSE OF THE WAR.
THE STUDY OF THE ART OF WAR. (Study of the past, present, and future.)

No. 5 (November, 1921).

THE GENESIS OF THE GERMAN PLAN OF CAMPAIGN.
THE ITALIAN II. CORPS IN FRANCE.
BAVARIA AND GERMAN POLITICS.
THE RECRUITING OF THE BRITISH ARMY DURING THE GREAT WAR. (A useful summary.)

REVUE MILITAIRE GÉNÉRALE.

No. 9 (September, 1921).

- ENGLAND AND RUSSIA. (The old rivalry in Asia continues.)
- THE FIRST EPISODE OF THE CAMPAIGN IN THE EAST. (The landing at Kum Kalé at the Dardanelles.)
- THE RECASTING OF THE TRAINING METHODS AND OUR DOCTRINE OF WAR.
- THE MISADVENTURES OF A MARSHAL OF FRANCE. (Villeroy, captured by Prince Eugéne at Cremona, 1702.)
- THE RÔLE OF THE HIGH COMMAND FROM THE ECONOMIC POINT OF VIEW, 1914-21. (Combination of military and economic offensives and defensives.)

No. 10 (October, 1921).

- STRATEGY AND OPERATIONS IN THE EAST OF FRANCE. (Deals with battles of Sarrebourg and Morhange.)
- ALBANIA : COMPARATIVE STUDY OF INFANTRY FIRE TACTICS BEFORE AND AFTER THE WAR OF 1914-18.

BELGIUM*BULLETIN BELGE DES SCIENCES MILITAIRES.*

No. 12 (April, 1921).

- OPERATIONS OF THE BELGIAN ARMY, 1914-18, WITH MAP. (Period dealt with is 27th August-10th September 1914. Sortie from Antwerp.)
- BATTLE GAS.
- TACTICAL SECURITY IN MODERN WAR.
- OBSERVATION FROM CAPTIVE BALLOONS.
- THE TACTICAL EMPLOYMENT OF MACHINE GUNS.
- LAYING ON THE CAR OF A CAPTIVE BALLOON.
- GUN-LAYING WITH PRECISION.

No. 1 (May, 1921).

- OPERATIONS OF THE BELGIAN ARMY (11TH SEPTEMBER, 1914).
- THE FIELD RAILWAYS OF THE BELGIAN ARMY, 1914-18.
- FIRING ON A MOVING TARGET.
- FRENCH PROVISIONAL MANUAL FOR INFANTRY MACHINE GUN UNITS.
- TRANSPORT AVIATION.

No. 2 (June, 1921).

- THE ARTILLERY ISSUE OF THE WAR. (General Pontus.)
- NOTES ON ARMoured CARS.
- METHODS OF INSTRUCTION.
- LEAGUE OF NATIONS.

No. 3 (July, 1921).

- CATERPILLAR TRACTION.
- INSTRUCTION IN MUSKETRY.

No. 4 (August, 1921).

- APPARATUS EMPLOYED BY THE RAILWAY BATTALION FOR RAIL LAYING.
- THE AUTOMATIC RIFLE.
- CAVALRY—SOME IDEAS.

No. 5 (September, 1921).

THE EFFECT OF THE RESISTANCE OF LIÉGE. (Combats the French legend that the resistance of Liége did not retard the German onslaught by a single day.)

MUSKETRY PRACTICE ON INDOOR RANGES.

THE BRITISH AIR FORCES.

MODERN PROJECTORS.

AVIATION AND THE NAVY.

THE DEVELOPMENT OF HEAVY ARTILLERY IN THE WAR.

FLAME-PROJECTORS.

No. 6 (October 1921).

OPERATIONS OF THE BELGIAN ARMY (12TH SEPTEMBER, 1914).

CAVALRY OF YESTERDAY AND TO-MORROW.

CONTRIBUTION TO THE TACTICS OF SECURITY.

GROUND OBSERVATION OF ARTILLERY FIRE.

CAPTURE OF MACHINE GUN NESTS.

No. 7 (November, 1921).

OPERATIONS OF THE BELGIAN ARMY (12TH SEPTEMBER, 1914—Continued).

INDICES OF PHYSICAL CONDITION.

THE MOBILISATION OF THE NATION FOR WAR.

MUSKETRY TRAINING APPARATUS.

GERMANY

THE MILITÄR-WOCHEBLATT.

(Articles of military interest concerning the war which have appeared between June and November 1921. For previous articles, see the R.U.S.I. JOURNAL of August, 1921.)

Volume 105, No. 47.

THE MISSION OF LIEUT.-COLONEL HENTSCHE, AND THE FALL OF LIÉGE, 1914.

Lieut.-General Schwarte gives some interesting statements on these two subjects. With regard to Colonel Hentsch, he says that von Moltke decided to send Colonel Hentsch on the 8th September, when he began to fear that the commanders of the First and Second Armies did not properly appreciate the situation, and gave him verbal orders, which, on the statement of General von Dommes, who was present, were as follows: "Go to the headquarters of the First and Second Armies and stop them beginning any withdrawal. If you do not arrive in time and a withdrawal has begun, direct the inner flanks of the Armies on Fismes." As it is now an established fact that when Hentsch reached Second Army headquarters no withdrawal had begun, General Schwarte considers that, in agreeing to Bülow's intention to retire, Hentsch did not fulfil the first part of his orders, and must consequently bear a great part of the responsibility.

The account issued this month (January) by Colonel Müller-Löbnitz, who has had access to the original documents in the archives of the German War Office ("Forschungen und Darstellungen aus dem Reichsarchiv. I. Die Sendung Hentsch." Col. Müller-Löbnitz, Mittler und Sohn, Berlin), confirms General Schwarte's statements in this article.

As to Liège, General Schwarze explains that the *coup-de-main* was part of Schlieffen's plan, which his successor Moltke decided in 1906 could only be carried out by the immediate capture of Liège. General Ludendorff, who had been in the Operations Branch of the German War Office in 1911, appreciated the vital importance of this fact, and when the commander of one of the assaulting columns (14th Brigade) was killed, and the attack seemed to be wavering, he left his post at headquarters of the Second Army, took command of the 14th Brigade and, personally, led it to victory.

No. 49.

THE DEMOLITION OF THE WIRELESS STATION AT KAMINA IN TOGOLAND
IN AUGUST, 1914.

The German wireless station at Kamina was only completed a short time before the outbreak of war, and was the central transmitting station for the German African possessions. The news of the outbreak of war took ten hours to get from the German Admiralty in Berlin, *via* Kamina, to a cruiser at Windhoek, German South-West Africa. The station was destroyed by the German garrison on the 15th August, 1914, shortly before the enemy could reach it.

ENGLAND'S GREAT WAR CRIME.

Before the war Germany was the best-fed country in Europe, and the scale of living gave a daily allowance of 2,400 calories per head. Owing to the blockade, this had been reduced by April, 1917, to 1,090 per head. Lack of fats caused a great increase of illness, and the writer asserts that one of the effects of the blockade was to undo thirty years of work of German doctors against tuberculosis.

No. 50.

A review is given in this number of Colonel Bruchmüller's book on artillery in the attack. The gradual development of the creeping barrage is described very fully in this book, from the German point of view, and the many difficulties met with in artillery organisation are dealt with. The writer gives it as his opinion that much of the failure of the German Rheims offensive in 1918 was due to the over-centralisation of artillery command, whereby the divisional commander had nothing left on his hands.

Volume 106, No. 2.

THE DEATH OF THE GERMAN CORPS OF OFFICERS.

This article is a résumé of the casualties of officers during the war. It states that 24 per cent. of the regular officers were killed (11,357 out of 45,923) and 15 per cent. of the reserve officers. The total losses of officers killed or died was 52,000, and the grand total of all ranks is given as 1,822,545.

No. 7.

THE RAID OF THE FRENCH 5TH CAVALRY DIVISION DURING THE BATTLE
OF THE MARNE, 1914.

General von Kuhl writes a German opinion of this raid. Its details are already well known to us through two or three admirable accounts by French authors. Von Kuhl, however, denies that the raid affected in any way General von Kluck's decision to retire from the Ourcq. A few ammunition columns were, he says, diverted or delayed, but there were no other results. He adds that he considers the raid was badly conceived and badly carried out: he also considers that the German cavalry was badly placed from the first, and was consequently absent at the decisive moment, and did not fulfil the hopes that had been placed on it.

No. 8.

THE SUPPLY SITUATION OF THE GERMAN ARMIES ON THE WESTERN FRONT
IN NOVEMBER, 1918.

General Gröner, who was responsible for food supplies, told the Emperor in November, 1918, that the German Armies were in danger of starvation. This statement has been much criticised, but the writer of the article maintains that Gröner was right, and that one of the principal causes was that the revolution prevented the free movement of such supplies as might have been obtained in Germany.

No. 10.

ROUMANIA'S PREPARATION FOR THE WAR.

Information is given in this article to show that Roumania began her preparations in 1914. On her declaration of war, in July, 1916, the grand total of all ranks was 1,250,000 as compared with about 400,000 in 1914. The magazines were full, there was ample equipment and clothing, and hospitals with 76,000 beds. As regards material, everything possible appears to have been made ready.

This number also contains an obituary notice of the death of Field-Marshal Karl von Bülow, who commanded the Second Army in the first months of the war. His appreciation of the situation of the 9th September, 1914, was the chief factor in the German withdrawal from the Marne to the Aisne.

No. 12.

GERMAN CASUALTIES IN THE WAR.

Interesting details are given by the writer, General Altrock, of the German casualties during the war. The grand total for killed and wounded is given as 149,530 officers and 5,899,884 men.

LUDENDORFF AND THE ARMISTICE.

A reply by General Ludendorff to an article in the *Berliner Tageblatt*, which accused German Supreme Headquarters of avoiding the responsibility brought about by the collapse of their military plans by not attending to the Armistice negotiations. The facts given by General Ludendorff show that such an accusation is quite unjust.

No. 13.

HINDENBURG AND THE ARMISTICE.

Hindenburg writes a denial of the statement, made in obituary notices after the murder of Herr Erzberger, that he ever thanked the latter warmly for his services during the armistice negotiations.

No. 15.

WHO CAUSED THE WAR?

General von Zwehl returns to this eternal question, and attempts to prove German innocence. There is nothing new in his remarks, and much is omitted, *i.e.*, there is no mention of Belgium.

No. 16.

THE CAMPAIGN OF THE GERMAN NINTH ARMY AGAINST THE RUMANIANS
AND RUSSIANS.

A review of the second volume of General von Falkenhayn's book. The capture of a copy of the Rumanian orders at a critical moment was the principal factor in the German victory. The book is a valuable historical record of a most interesting campaign.

WISSEN UND WEHR.

No. 6 (November, 1921).

CÆSAR AS COMMANDER AND STATESMAN IN THE LIGHT OF MODERN TIMES
(to be continued).

OUR MORAL CONDITION AND THE DUTY OF LEADERS.

THE ASSAULT ON THE BOIS DE LA CAILETTE (VERDUN, JUNE, 1916).

THE CO-OPERATION OF ARMY AND NAVY ON BRITISH AND GERMAN SIDES
IN THE FIRST MONTHS OF THE WAR. By Korvetten-Kapitän Groos
(ascribes the loss of the War to British Sea Power).

PRINCIPAL ADDITIONS TO LIBRARY.

November—December, 1921, and January, 1922.

HISTORIES.

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Witherby.) London, 1921. (Presented by the Publishers.)

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OF THE 5TH BATTALION D.C.L.I. IN THE GREAT WAR. By E. C. Matthews.
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sented by the Publisher.)

THE HISTORY OF THE LOCALLY RAISED 160TH (WEARSIDE) BRIGADE, R.F.A.
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HISTORIES OF TWO HUNDRED AND FIFTY-ONE DIVISIONS OF THE GERMAN ARMY
WHICH PARTICIPATED IN THE WAR (1914-1918). Compiled from Records
of Intelligence Section of the General Staff, American Expeditionary Force,
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General G. Seton Hutchison, D.S.O., M.C. Illustrations and maps. Folio.
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THE STORY OF THE ROYAL WARWICKSHIRE REGIMENT (FORMERLY THE SIXTH
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A HISTORY OF THE EAST LANCASHIRE ROYAL ENGINEERS: COMPILED BY MEMBERS OF THE CORPS. Illustrations. 8vo. N.P., 1920. (Presented by Lieut.-Colonel J. G. Riddick, D.S.O.)

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THE HISTORY OF THE SECOND DIVISION, 1914-1918, VOL I, 1914-16. By E. Wyrall. Illustrations and maps. 21s. 8vo. (T. Nelson and Sons.) London, 1921.

A HISTORY OF THE GREAT WAR, VOLS. I. AND II. By J. Buchan. Maps. 25s. 8vo. (T. Nelson and Sons.) London, 1921.

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By Captain J. M. B. Neill. 8vo. London, 1845.

THE LIFE OF MUSGRAVE BARTTELOT, CAPTAIN AND BREVET-MAJOR ROYAL FUSILIERS: BEING AN ACCOUNT OF HIS SERVICES FOR THE RELIEF OF KANDAHAR, OF GORDON, AND OF EMIN. By W. G. Barttelot. 8vo. London, 1890.

MEMOIRS OF MY INDIAN CAREER. By Sir G. Campbell. 2 vols. 8vo. London, 1893.

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ROUGH RECOLLECTIONS OF MILITARY SERVICE AND SOCIETY. By Lieut.-Colonel B. D. W. Ramsay. 2 vols. 8vo. London, 1882.

A VARIED LIFE: A RECORD OF MILITARY AND CIVIL SERVICE OF SPORT AND OF TRAVEL IN INDIA, CENTRAL ASIA, AND PERSIA, 1849-1902. By General Sir T. E. Gordon. Maps and illustrations. 8vo. London, 1906.

MEMOIRS OF THE LIFE AND CAMPAIGNS OF THE HON. N. GREENE, MAJOR-GENERAL IN THE ARMY OF THE UNITED STATES. By C. Caldwell. 8vo. Philadelphia, 1819.

MEMOIR AND CORRESPONDENCE—GENERAL J. S. FRASER OF THE MADRAS ARMY. By Colonel H. Fraser. 8vo. London, 1885.

NOTICES OF BOOKS.

From Private to Field Marshal. By FIELD-MARSHAL SIR WILLIAM ROBERTSON, Bart. Constable: London.

It is difficult to say that any one portion of this record of great achievement is more interesting than any other, but it may safely be asserted that everyone will find something in it both interesting and instructive. Like its writer, the book is straightforward and direct, making no artistic appeal to the sympathy of the reader, but none the less, or perhaps on that account, instantly receiving and retaining it. Through it all run the golden threads of common-sense and human kindness. Step by step we follow the early struggles, the many set-backs and the tardy successes, and we can see how difficulties served to build up that steadfastness of purpose which was the sheet-anchor of the ship of State through some of the most critical stages of the War.

Equipped with little but intense industry, determination, and a strong sense of humour, he had none of the aids to circumventing life's difficulties possessed by those more fortunately situated in regard to the accidents of birth. Thus was developed his outstanding characteristic of seeing the essential in any problem, and squarely facing the facts, however hard, whilst others were trying to find an easy way round. From his assumption of office as C.I.G.S. his main

efforts were devoted to stopping the dispersion of energy in profitless directions, and for such success as he achieved the nation and the Army will be ever in his debt.

Although he maintains a laudable reticence on many of the more controversial questions of policy and strategy, we can see the patience with which he continually brought the political steed up to the fence, at which it as constantly baulked, eventually throwing the rider, only to find that the fence had to be taken after all. The reader will read with sympathy of his conviction that the Germans would make a great effort in "the spring" of 1918 to obtain a decision in the only place where a decision could be obtained, and of his efforts to bring troops from the East to meet the danger before it was too late.

He modestly apologises for mentioning the causes leading up to his dismissal, on the ground that the subject can be of little interest to anyone but himself. We cannot agree with this view, for to millions it was a matter of lively concern, and to them it will be no surprise that nothing more became his tenure of office than his manner of leaving it.

Interesting as these matters are, however, we do not consider that they constitute the chief value of the book, nor do we think that the author wrote it in the spirit of self-justification which characterised the memoirs of the great German leaders. Questions on which opinion is now sharply divided will, in time, lose their interest, but the examples of fine lives live long after the voice of controversy is stilled, and we venture to think that in years to come this intensely human document will beckon many a young soldier forward. To such we would say: read and mark the book from this point of view, and, when faced with difficulties and discouragements, follow the example of a man of no outstanding genius who overcame them all by industry, determination, and force of character.

On Hazardous Service. By MERVYN LAMB. William Blackwood and Sons : Edinburgh.

The world can never have enough of good spy stories, though the deluge of them since the War might well have satiated any appetite less robust. The words "secret service" have a magic for the ordinary reader which pirates and pieces of eight used to have for the schoolboy. The pity is that this type of work is too often left to the ignoramus and the fool, who never comes within measurable distance of reality, and who confines himself to the cheap-jack effects of crude sensation. The truth is that to make a good spy story requires a real intellectual effort. The vital business of intelligence in war was not left in the hands of duffers, and to succeed in it required a subtle and logical mind and a real gift of imagination. The true intelligence story is not only as a rule far more ingenious than any fiction, but it is far more dramatic.

The premier merit of Mr. Lamb's "*On Hazardous Service*" is that it really convinces. It is full of thrilling situations and wild adventures, and the reader accepts them implicitly because he is convinced that the writer knows what he is talking about. Anyone familiar with the detail of intelligence work at the front will realise that this book is the work of one who must have known all about that business. There is a charming heroine, a much-enduring hero, many well-drawn subsidiary characters, and a plot which marches swiftly to a satisfactory conclusion. That is to say that, as a novel, it is an excellent entertainment. But it is something more than that. It expounds to the ordinary man the extraordinary difficulties which attended the obtaining of information from inside the enemy lines, and the immense risks that had to be taken. It therefore provides a valuable and most instructive comment on one of the most vital activities of the war.

The Secret Company. By FERDINAND TUOHY. John Murray.

This book purports to be an account of intelligence and secret service work during the late War. What precise facilities the author enjoyed for forming a correct judgment is not clear, but it appears that for a portion of the time he acted as a war correspondent, in which capacity he seems to have absorbed the usual tales which facetious subalterns pour into the ears of persons in pursuit of "copy." Mixed up with useful information are a number of sensational stories, some of which are doubtless true, more are highly coloured, and others again are purely fictitious. As the ordinary reader has no means of discriminating between the three classes, his safest course will be to disbelieve them all. From the nature of things it is doubtful if any one person could have described from personal knowledge all the varied fields of intelligence work with which the author attempts to deal. Equally naturally those acquainted with the inner workings of espionage would not have parted with their knowledge to him. He has, however, made a courageous effort to cover the ground, and the book, if it does nothing else, gives a general idea of the extraordinary diversity of intelligence work in modern war.

Less commendable is a tendency to trenchant criticism, based on the theory that an officer learnt more of the art of war in three months in France than in 20 years of peace-training on Salisbury Plain. The value of his opinion may be gauged from the statement, used to support an attack on staff officers in general, that "three Staff Officers under whom he served were so disgusted with the sluggishness, red tape, and inefficiency of staff work in the field that they preferred to go and command fighting units."

The best parts of the book are those dealing with wireless and counter-espionage, whilst there are some good illustrations of the working and effect of spy-fever: branches of intelligence work with which perhaps he was actually acquainted. Most of this is common knowledge.

Prints of British Military Operations. By LIEUT.-COLONEL C. DE W. CROOKSHANK. Adlard and Son, Ltd.

This very rare and beautiful collection of military prints is contained in a book and a portfolio, and comprises rather over 30 representations of actions in which British soldiers have taken part, from the year 1066 to 1868, from the Battle of Carberry Hill to the capture of Magdala. All these prints are most excellently reproduced, those contained in the portfolio being, of course, the larger and in some respects the most important, and some of these have been produced from old tapestries and illustrated manuscripts. The work was begun in 1914 and was interrupted at the outbreak of the Great War, on the cessation of which it was found, from a variety of circumstances, that it was no longer possible to produce the book on the ambitious scale on which it had originally been projected; but the work as it stands is particularly representative of all the main achievements of the British Army for the period with which it deals, and should be especially appealing to regimental messes and libraries. But the representation of these prints, coloured and uncoloured, admirable as this is, does not provide Colonel Crookshank's sole claim to the gratitude of his brother soldiers and to those who desire information on the matter of pictorial illustration of the history of the Army. The compiler has provided a most carefully drawn up *catalogue raisonné*, with historical descriptions of all the main actions of each period, while the curious in these matters will find the list extraordinarily complete of all the works by British and foreign artists who have depicted the different actions herein dealt

with, and we are briefly told what especial value as an accurate contemporary pictorial record we may attach to each, and how we should beware of the by no means few "fakes" of battles which have been perpetrated by the ingenious, if unscrupulous, salesmen of ancient and modern times.

The Isle of Man and the Great War. By B. E. SARGEAUNT. Brown and Sons, Ltd.

In all parts of the country records are being compiled narrating the part which individual towns and districts, and the men and women who live in them, have played in helping to secure a happy termination of the Great War. This book, which has lately appeared, is by one who is now Government Secretary and Treasurer of the Isle of Man, and who for some years held the post of Assistant Secretary of the *Royal United Service Institution*. He has compiled a very complete and painstaking record of all that was done by Manxmen, afloat and ashore, to help the cause, tells us of the contribution made by the island to the fighting forces of the Crown, how it held and guarded the many thousands of prisoners of war committed to its charge, and provides a Roll of Honour containing the names of all ranks of men who in almost every one of the many fighting units of our Services gave their lives in the War. The book is, of course, primarily of interest for those who belong to or know the Isle of Man, but it forms a useful contribution to the vast literature of the Great European War.



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